



IP DSLAM Switch

IDL-2402

User's Manual

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FCC Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the Instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Caution

To assure continued compliance (example-use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the Following two conditions: (1) This device may not cause harmful interference, and (2) this Device must accept any interference received, including interference that may cause undesired operation.

CE mark Warning

The is a class A device, In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

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WEEE Warning

To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

Revision

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1. Introduction

Planet IDL-2402 is a 24-port ADSL/ADSL2/ADSL2+ mini IP DSLAM, which has one 1000Base-T uplink Interface, for efficient scalability and easy deployment in the network with small ADSL environment. With built-in POTS splitter subscriber ports, the PLANET IDL-2402 is a Cost-Effective Solution for Network Service Provider to offer excellent services to multiple subscribers.

The PLANET IDL-2402 supports local and remote managed capabilities of CLI, SNMP, Telnet via RS-232 Console Port and Web GUI management interface. Via the user-friendly Web GUI, the PLANET IDL-2402 can be managed by workstations running standard web browsers that provide the easy-to-use operation and convenient maintenance.

Furthermore, the PLANET IDL-2402 provides many features such as QoS, VLAN, Multicast, Bandwidth Management, Traffic Prioritization, and Access Control List. With the advanced QoS features, IDL-2402 is an ideal solution for next generation broadband network to deliver rich video contents, DSL, POTS, and VoIP service over ADSL2+ connection.

1.1 Product Features

- ◆ 24-Port ADSL/ADSL2/ADSL2+ subscriber interface with build-in POTS splitter
- ◆ DMT data rate: Downstream up to 25 Mbps / Upstream up to 3Mbps
- ◆ 1000Base-T uplink interface
- ◆ Web GUI based management
- ◆ Local RS-232 CLI and Ethernet SNMP / Telnet / SSH management
- ◆ Firmware upgradeable via FTP
- ◆ Configuration backup and restoration via TFTP
- ◆ Supports IPSec / L2TP / PPTP VPN pass-through
- ◆ Supports 4K MAC address
- ◆ Supports IEEE 802.1q Tag-based VLAN and Protocol-based VLAN
- ◆ Layer 2 / 3 filtering based on MAC, IP, Protocol, Port number and Ether Type
- ◆ Access Control List by MAC / IP / Protocol / Port number
- ◆ Traffic prioritization (802.1p)
- ◆ Supports IGMP snooping / proxy per IGMP v1, v2, and v3
- ◆ FAN alarm indicating
- ◆ Temperature monitoring and system overheating trap functionality

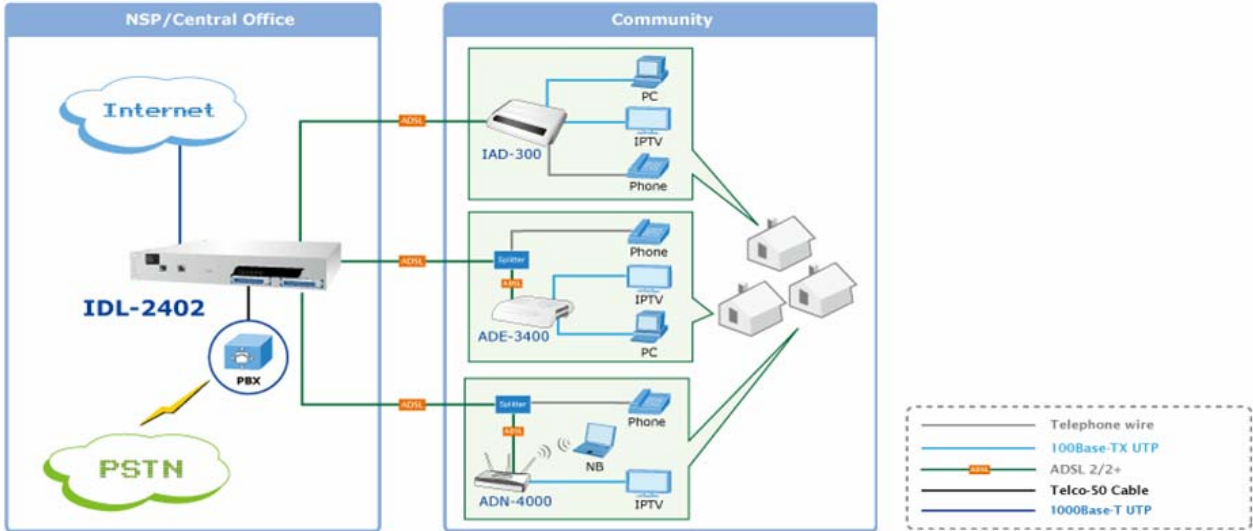
1.2 Package Contents

- ◆ IDL-2402 Unit x 1
- ◆ AC Power Cord x 1
- ◆ CD (Containing User's Manual, QIG) x 1
- ◆ Quick Installation Guide x 1
- ◆ 2-Meter Telco-50 Cable x 2
- ◆ Console Cable x 1
- ◆ Rack-mounting x 2
- ◆ Screw Package x 2

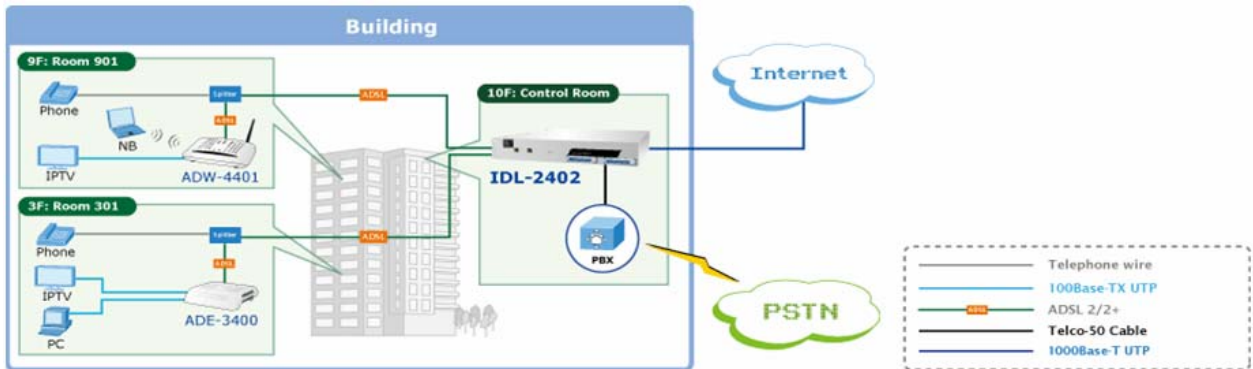
1.3 Application

The PLANET IDL-2402 offers the benefit of high performance to central office co-location and MTU (Multi-Tenant Unit) / MDU (Multi-Dwelling Unit) markets. It provides broadband data service over existing copper wires without affecting the conventional voice service by 24 subscriber ports with built-in POTS splitter. A PLANET IP DSLAM is the perfect solution for NSP a cost-effective but high-value centrally management capability.

Application 1: For Community



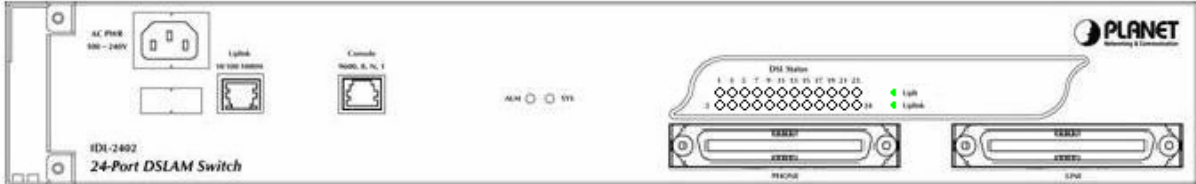
Application 2: For Building



1.4 Outlook

1.4.1 Front Panel

The front panels of IDL-2402 are shown below.



IDL-2402

LED Definition

LED	Color	LED Description	
SYS	Green	Normal Operation	
	Red	Self-test fail	
ALM	Green	Normal Operation	
	Red	To indicate the system alarm status	
DSL status	Green	On	ADSL Port is activated and linked
		Off	ADSL Port is Disabled
		Flash	ADSL Port is activated but not linked
Uplink	Orange	On	Uplink Port connect with 100/1000Mbps Ethernet link
		Off	Uplink Port connect with 10Mbps Ethernet link
	Green	On	Active
		Off	Inactive
		Flash	Uplink Port Transmit / receive data

Port Definition

Port	Port Description
AC PWR	AC Power cord plug-in, 100 - 240VAC is allowed.
Uplink Port	Gigabit Ethernet port. 10/100/1000Mbps, auto-negotiation, auto-MDI
Console Port	RS-232 port for system configuration and maintenance. Default settings: 9600, 8, N, 1
PHONE	RJ-21 connector for connecting POTS lines.
LINE	RJ-21 connector for connecting DSL lines.

1.5 Technical Specifications

Product	IP DSLAM	
Model	IDL-2402	
Hardware Specification		
Case	1.5U high box-type with a rack-mountable enclosure	
Ports	Uplink	1 x RJ-45 (10/100/1000Base-T)
	Console	RS-232 Serial Port (9600, 8, N, 1)
	LINE	1 x RJ-21 Connector
	PHONE	1 x RJ-21 Connector
LED Indicators	1 x SYS LED 1 x ALM LED 1 x Uplink LED 24 x ADSL LEDs	
Software Specification		
Standard	Compliant with ADSL standard <ul style="list-style-type: none"> - ANSI T1.413 issue 2 - G.dmt (ITU G.992.1) - G.lite (ITU G.992.2) - G.hs (ITU G.994.1) Capable of ADSL2 standard <ul style="list-style-type: none"> - G.dmt.bis (ITU G.992.3) Capable of ADSL2+ standard <ul style="list-style-type: none"> - G.dmt.bisplus (ITU G.992.5) 	
System	<ul style="list-style-type: none"> - Subscriber interface with built-in POTS splitter - Downstream DMT data rate up to 25 Mbps - Upstream DMT data rate up to 3 Mbps (Annex M) - Distance up to 18 kft - 8 PVCs per xDSL port - DHCP forward - DHCP relay agent - PPPoE relay - IPSec/L2TP/PPTP VPN pass-through function - PPPoA to PPPoE inter-working 	
Bridge Function	<ul style="list-style-type: none"> - Supports IPv4 packet - Supports IEEE802.1d Ethernet bridge function between trunk Ether port and ATM VCs - Supports static source MAC table provisioning, automatic source MAC learning and block duplicate ones - Supports 4K static MAC address table - 128 MAC address per x DSL port 	
VLAN Function	<ul style="list-style-type: none"> - IEEE 802.1q Port-based / Protocol-based VLAN - 512 non-stacked VLAN-ID simultaneously ranging from 1 to 4095 - VLAN stacking and VLAN cross-connect - IP Spoofing prevention - MAC anti-Spoofing - Port isolation functionality - Static VLAN group and membership provisioning 	
Multicast	<ul style="list-style-type: none"> - IP multicast forwarding 	

Function	<ul style="list-style-type: none"> - Complies with RFC2684 bridged payload encapsulation mode - Up to 256 multicast groups and 512 copies simultaneously - Up to 48 profile-based Multicast Access Control - Limit maximum number of IGMP groups joined per bridge port - IGMP snooping / proxy per IGMP v1, v2, and v3 - IGMP proxy and IGMP snooping Selection
Security	<ul style="list-style-type: none"> - Supports Layer-2 frame filtering based on MAC and Ether Type - Supports Layer-3 filtering based on IP, Protocol, and Port number - IEEE 802.1X authentication
QoS	<ul style="list-style-type: none"> - Control the bandwidth occupied by broadcast, multicast, and unknown unicast (flooding) - Rate-limit profile binding per bridge port - Three Color Marking (TCM) policer - Ethernet rate limit per bridge port - ToS (type of service) / DiffServ (differentiated services) stripping and priority queuing - DSCP mapping to 802.1p - Selectable adopted priority queue mechanisms according to Strict Priority Queue (SPQ) and Weighted Fair Queue (WFQ) - Configurable mapping function between ATM PVC and 802.1p priority queue - Supports IP CoS technology
Management	<ul style="list-style-type: none"> - Web based GUI management - Local RS-232 CLI, and Ethernet SNMP / Telnet / SSH management - Remote in-band SNMP / Telnet / SSH management - Firmware upgradeable via FTP ◆ SNMP v1, v2c

2. Installation

The followings are instructions for setting up the IDL-2402. Refer to the illustration and follow the simple steps below to quickly install your IP DSLAM.

2.1 Safety Instruction

The following is the safety instructions for IP DSLAM before installing.

- >> The maximum operating temperature of the IP DSLAM is 65°C. Care must be taken to allow sufficient air circulation or space between units when the IP DSLAM is installed inside a closed rack assembly and racks should safely support the combined weight of all IP DSLAM.
- >> The connections and equipment that supply power to the IP DSLAM should be capable of operating safely with the maximum power requirements of the IP DSLAM. In the event of a power overload, the supply circuits and supply wiring should not become hazardous.
- >> The AC power cord must plug into the right supply voltage. Make sure that the supplied AC voltage is correct and stable. If the input AC voltage is over 10% lower than the standard may cause the IP DSLAM to malfunction.
- >> Generally, when installed after the final configuration, the product must comply with the applicable safety standards and regulatory requirements of the country in which it is installed. If necessary, consult for technical support.
- >> A rare condition can create a voltage potential between the earth grounds of two or more buildings. If products installed in separate building are interconnected, the voltage potential can cause a hazardous condition. Consult a qualified electrical consultant to determine whether or not this phenomenon exists and, if necessary, implement corrective action before interconnecting the products. If the equipment is to be used with telecommunications circuit, take the following precautions:
 - Never install telephone wiring during a lightning storm.
 - Never install telephone jacks in wet location unless the jack is specially - designed for wet location.
 - Never touch un-insulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
 - Caution when installing or modifying telephone lines (other than a cordless telephone) during an electrical storm. There is a remote risk of electric shock from lightning.
 - Do not use a telephone or other equipment connected to telephone lines to report a gas leak in the vicinity of the leak.

2.2 Hardware Installation

The PLANET IDL-2402 is a 1.5U high box-type IP DSLAM with rack-mountable enclosure. It can be installed in a standard 19-inch rack by using the mounting brackets provided. Mount the shelf on the rack using the large screws provided. The procedure to connect and wire the system is as follows.

2.2.1 System Requirements

- Workstation with Windows NT/2000/XP
- RJ-45 cables
- RJ-11 cables
- Telco-50 cables
- RS-232 console cable
- <Optional> MDF Patch Panel (Model No.: IDL-PAN-48).

2.2.2 Installation Procedure

Step 1: Ground the IP DSLAM by connecting a grounded wire (Optional).

Ground Connections

This section provides the grounding rule for the IDL-2402. All remote system sites must be properly grounded for optimum system performance.

■ In Central Office:

There should be a CO GND that is adequately grounded. If the measured resistance from the grounding screw (on the rear panel of the DSLAM, refer to below figure) to CO GND is less than 5 Ohm, then it can be assumed that the system is well grounded. If the measured resistance is larger than 5 Ohm, it is recommended to connect the grounding screw to CO GND using #14 or #12 AWG wire gauge conductor.

■ In Remote Cabinet:

The IDL-2402 should be grounded by connecting a #14 or #12 AWG conductor between the grounding screw (on the rear panel of the DSLAM, refer to below figure) and the earth ground or main grounding bar. The resistance between the chassis and the grounding bar should be less than 25 Ohm.

Rear Panel Connection



IDL-2402 grounding screw on the rear panel

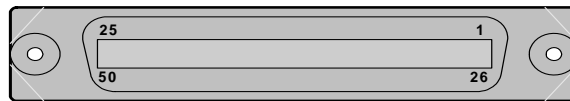
Step 2: Connecting the ADSL LINE and PHONE interfaces

The IDL-2402 supports 24 ports ADSL subscribers per box. There are two RJ21 50-pin female connectors on the front panel of the system. One for ADSL line and one for POTS interface.

To connect the subscriber lines, use cables with the RJ21 50-pin male connectors. When installing, just plug the end of a cable with connector into the LINE and PHONE interface female connector on the front panel. The other end of the cable is generally tied to the MDF (Main Distribution Frame).

The pin assignment of LINE/PHONE interface is illustrated below (the numbers in the connector figures below represent PIN numbers):

For port 1~24:



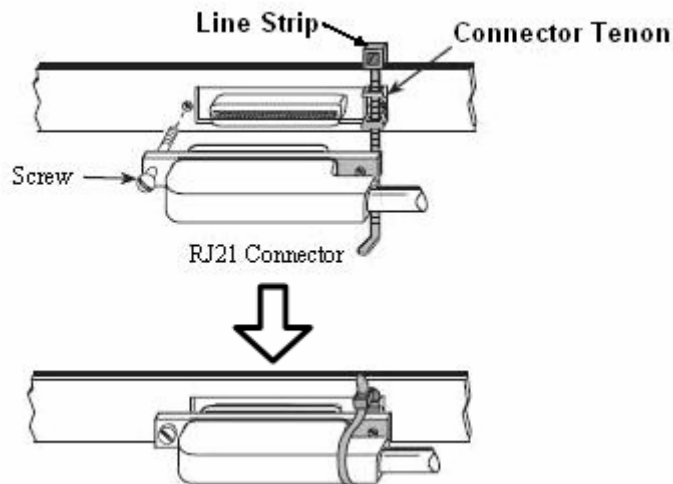
PIN Number	1	2	3	4	5	6	7	8	~	18	19	20	21	22	23	24	25
Port Number	Tip 1	Tip 2	Tip 3	Tip 4	Tip 5	Tip 6	Tip 7	Tip 8	~	Tip 18	Tip 19	Tip 20	Tip 21	Tip 22	Tip 23	Tip 24	X
PIN Number	26	27	28	29	30	31	32	33	~	43	44	45	46	47	48	49	50
Port Number	Ring 1	Ring 2	Ring 3	Ring 4	Ring 5	Ring 6	Ring 7	Ring 8	~	Ring 18	Ring 19	Ring 20	Ring 21	Ring 22	Ring 23	Ring 24	X

Note:

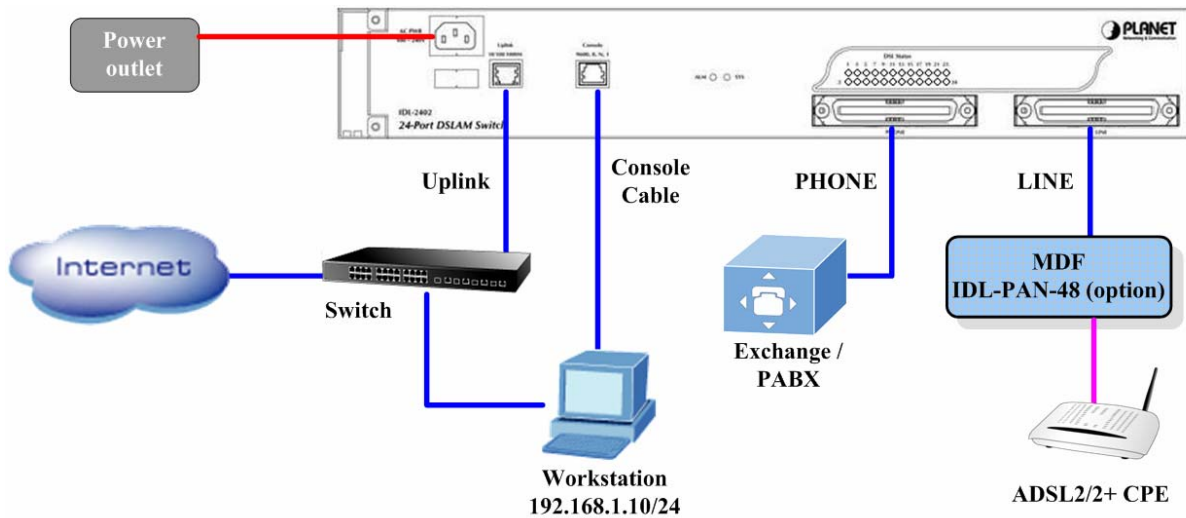
The MDF Patch panel is optional of standard package.

Note:

Please plug-in the RJ-21 cable with connector Tenon as below figure.



Front Panel Connection



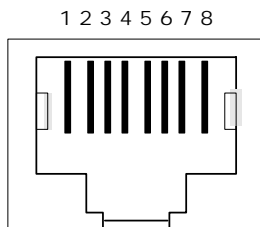
Front panel connection of IDL-2402

UPLINK Port:

Connect to Internet by RJ-45 cable.

Console Port:

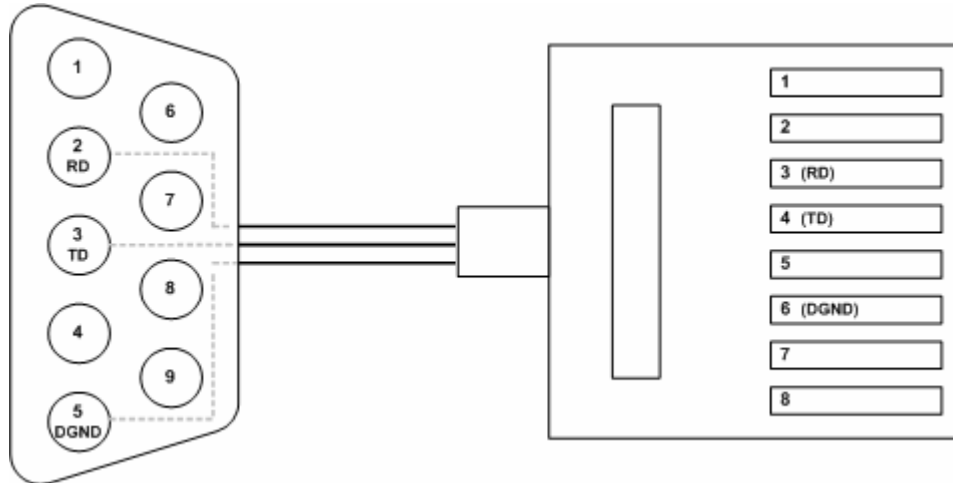
Connect to PC by RS-232 console cable in order to administer your IP DSLAM through CLI. The Console interface on the front panel is the main control interface of the IDL-2402. The RJ45 connector pin assignment is illustrated below:



3	4	6	Other pins
TX	RX	GND	unused

Console Port RJ-45 pin assignment

To connect the host PC to the console port, a RJ45 (male) connector-to-RS232 DB9 (female) connector cable is required. The RJ45 connector of the cable is connected to the Console port of the DSLAM; the DB9 connector of the cable is connected to the PC COM port. The pin assignment of the console cable is shown below:



DB-9F	RJ-45M Pin
	1
	2
Pin 2 RD	3
Pin 3 TD	4
	5
Pin 5 DGND	6
	7
	8

Pin Assignment of Console Cable

Step 3: Hook power cord and apply the power.

2.3 WEB Configuration

This section describes how to use Web Configuration Tool to maintain your IP DSLAM. The IDL-2402 contains a HTTP server. You can login and configure it by using your Web Browser.

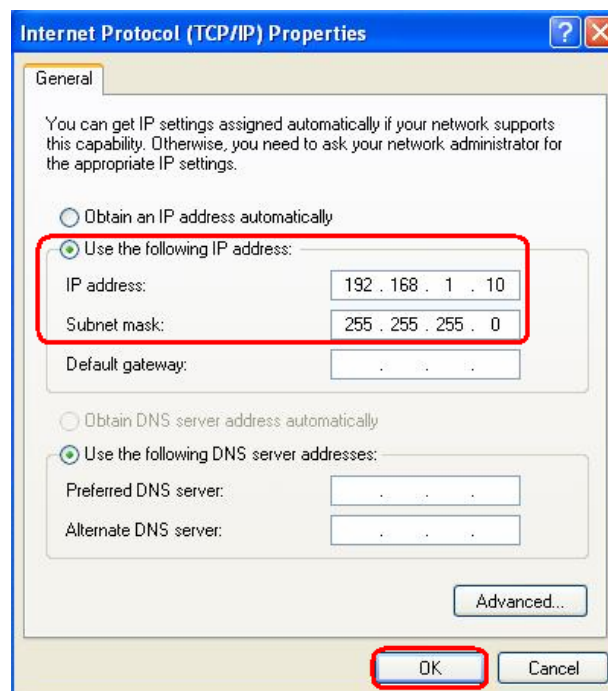
2.3.1 System Preparation

Before attempting to configure the IDL-2402, please ensure as below:

Set your computer's IP with the same network mask of the router. **(For example: Router's default IP is 192.168.1.1 / 255.255.255.0)**

Then you can set computer's IP to:

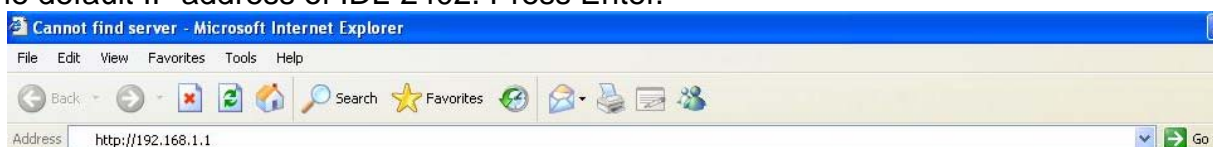
192.168.1.x / 255.255.255.0. (The range for x is from 2 to 253)



2.3.2 WEB Configuration Procedure

Step 1: Using your WEB Browser

Open web browser and type **http://192.168.1.1** in the browser's address box. This IP is the default IP address of IDL-2402. Press Enter.



Step 2 : Login the IDL-2402

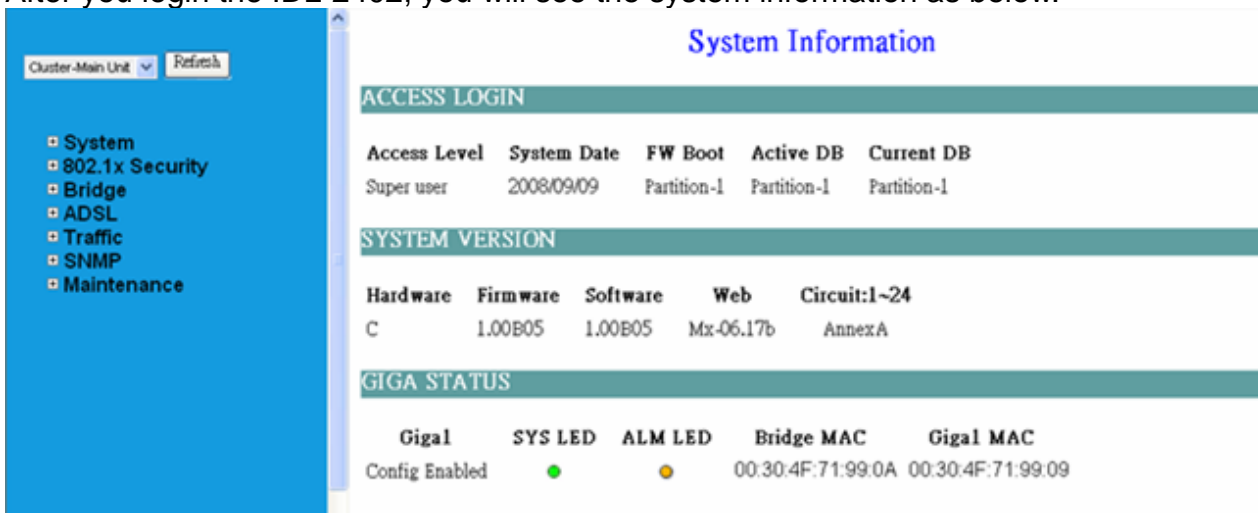
A login page will appear. Please type your username / password and click **“Sign in”**. (The default **username / password** is **admin / admin**)



The image shows the 'Web Interface Login' page. It features a red-bordered box containing a 'Username:' field with 'admin' and a 'Password:' field with six dots. Below this is a 'Sign in' button. Underneath the login fields is a list of user levels:

- Level 1: SuperUser, R/W Management all
- Level 2: Engineer, R/W (Disabled from User Account)
- Level 3: Guest, Read only

After you login the IDL-2402, you will see the system information as below.



The screenshot shows the 'System Information' page. On the left is a blue sidebar with a menu: Cluster-Main Unit, Refresh, System, 802.1x Security, Bridge, ADSL, Traffic, SNMP, and Maintenance. The main content area has three sections:

ACCESS LOGIN

Access Level	System Date	FW Boot	Active DB	Current DB
Super user	2008/09/09	Partition-1	Partition-1	Partition-1

SYSTEM VERSION

Hardware	Firmware	Software	Web	Circuit:1~24
C	1.00B05	1.00B05	Mx-06.17b	AnnexA

GIGA STATUS

Gigal	SYS LED	ALM LED	Bridge MAC	Gigal MAC
Config Enabled	●	●	00:30:4F:71:99:0A	00:30:4F:71:99:09

Step 3 : Configure the DSL PVC

Go to “**Bridge → Interface Setup → ADSL PVC**” setting screen, select the ADSL port and click “**Create**” to apply the PVC settings.

For example, create PVC-1 to Port 1. The default **VPI / VCI** is **0 / 35**.

Cluster: Main Unit

- System
- 802.1x Security
- Bridge**
 - Interface Setup**
 - GIGA Bridge
 - ADSL PVC**
 - ADSL Bridge
 - ADSL Port Security
 - VLAN Configuration
 - Access Control
 - Forwarding
 - Relay
 - IGMP
 - IPoA
- ADSL
- Traffic
- SNMP
- Maintenance

VPI: 0 VCI: 35 Traffic: Rx Default[UnShaped] Tx Default[UnShaped]
Encap: LLC Protocol Base VLAN: Disabled
ALL

Port 01~12 PVC-1 Query

Select	Port	VPI	VCI	Rx Traffic	Tx Traffic	ENCAP	Protocol Base VLAN
<input checked="" type="radio"/>	1	0	35	Default	Default	LLC	Disabled
<input type="radio"/>	2						
<input type="radio"/>	3						
<input type="radio"/>	4						
<input type="radio"/>	5						
<input type="radio"/>	6						
<input type="radio"/>	7						
<input type="radio"/>	8						
<input type="radio"/>	9						
<input type="radio"/>	10						
<input type="radio"/>	11						
<input type="radio"/>	12						

[ATM TRAFFIC PARAMETER]

VPI: 0 VCI: 35 Traffic: Rx Default[UnShaped] Tx Default[UnShaped]
Encap: LLC Protocol Base VLAN: Disabled
ALL

Port 01~12 PVC-1 Query

Select	Port	VPI	VCI	Rx Traffic	Tx Traffic	ENCAP	Protocol Base VLAN
<input checked="" type="radio"/>	1	0	35	Default	Default	LLC	Disabled
<input type="radio"/>	2						
<input type="radio"/>	3						
<input type="radio"/>	4						
<input type="radio"/>	5						
<input type="radio"/>	6						
<input type="radio"/>	7						
<input type="radio"/>	8						
<input type="radio"/>	9						
<input type="radio"/>	10						
<input type="radio"/>	11						
<input type="radio"/>	12						

Step 4 : Enable the ADSL Port Service

Go to “**System → ADSL Port Service**” setting screen, select the ADSL port and Admin is “ON”. Click “**Modify**” to make this Port is ON.

The screenshot shows the 'System >> ADSL Port Service' configuration page. On the left is a blue navigation menu with 'System' selected and 'ADSL Port Service' highlighted. The main area has a header 'System >> ADSL Port Service' and a form with 'Admin' set to 'OFF', 'Service Profile' set to '1', 'Spectrum Profile' set to '1', and 'TCA Profile' set to '1'. A 'Modify' button is visible. Below the form is a table with columns: Select, Port, Admin Status, Current Status, Service Profile, Spectrum Profile, and TCA Profile. The table lists ports 1 through 11, all with 'Admin Status' set to 'OFF'.

Select	Port	Admin Status	Current Status	Service Profile	Spectrum Profile	TCA Profile
<input checked="" type="radio"/>	1	OFF	OFF	1	1	1
<input type="radio"/>	2	OFF	OFF	1	1	1
<input type="radio"/>	3	OFF	OFF	1	1	1
<input type="radio"/>	4	OFF	OFF	1	1	1
<input type="radio"/>	5	OFF	OFF	1	1	1
<input type="radio"/>	6	OFF	OFF	1	1	1
<input type="radio"/>	7	OFF	OFF	1	1	1
<input type="radio"/>	8	OFF	OFF	1	1	1
<input type="radio"/>	9	OFF	OFF	1	1	1
<input type="radio"/>	10	OFF	OFF	1	1	1
<input type="radio"/>	11	OFF	OFF	1	1	1

You can see the Admin status became to ON.

The screenshot shows the 'System >> ADSL Port Service' configuration page after modification. The 'Admin' status is now 'ON'. The table below shows that the 'Admin Status' for Port 1 has changed from 'OFF' to 'ON', while all other ports remain 'OFF'.

Select	Port	Admin Status	Current Status	Service Profile	Spectrum Profile	TCA Profile
<input checked="" type="radio"/>	1	ON	OFF	1	1	1
<input type="radio"/>	2	OFF	OFF	1	1	1
<input type="radio"/>	3	OFF	OFF	1	1	1
<input type="radio"/>	4	OFF	OFF	1	1	1
<input type="radio"/>	5	OFF	OFF	1	1	1
<input type="radio"/>	6	OFF	OFF	1	1	1
<input type="radio"/>	7	OFF	OFF	1	1	1
<input type="radio"/>	8	OFF	OFF	1	1	1
<input type="radio"/>	9	OFF	OFF	1	1	1
<input type="radio"/>	10	OFF	OFF	1	1	1
<input type="radio"/>	11	OFF	OFF	1	1	1

Step 5 : Connect the ADSL2/2+ CPE to Patch Panel

Connect the ADSL2/2+ CPE to Patch Panel and configure it, the VPI / VCI value must be the same with IDL-2402.

After finish setting, the CPE will establish the ADSL connection with IDL-2402. You can check the connection status as below figure. The Current Status is ON.

Cluster-Main Unit Refresh

- System
 - System Info
 - Board IP Setup
 - Ethernet Port Service
 - ADSL Port Service
 - CLI Setup
 - Cluster Setup
 - System Inventory
 - System Contact Info
 - SNTP
 - IP Routes
 - User Administration
 - Duplicator
 - 802.1x Security
 - Bridge
 - ADSL
 - Traffic
 - SNMP
 - Maintenance

Admin: ON Service Profile: 1 Spectrum Profile: 1 TCA Profile: 1 All Modify

The Service Profile range from 1 to 120
The Spectrum Profile range from 1 to 120
The TCA Profile range from 1 to 64

Port 01~12 Query

Select	Port	Admin Status	Current Status	Service Profile	Spectrum Profile	TCA Profile
<input checked="" type="radio"/>	1	ON	ON	1	1	1
<input type="radio"/>	2	OFF	OFF	1	1	1
<input type="radio"/>	3	OFF	OFF	1	1	1
<input type="radio"/>	4	OFF	OFF	1	1	1
<input type="radio"/>	5	OFF	OFF	1	1	1
<input type="radio"/>	6	OFF	OFF	1	1	1
<input type="radio"/>	7	OFF	OFF	1	1	1
<input type="radio"/>	8	OFF	OFF	1	1	1
<input type="radio"/>	9	OFF	OFF	1	1	1
<input type="radio"/>	10	OFF	OFF	1	1	1
<input type="radio"/>	11	OFF	OFF	1	1	1
<input type="radio"/>	12	OFF	OFF	1	1	1

[SERVICE PROFILE | SPECTRUM PROFILE | TCA PROFILE]

Now the clients can access to Internet through IDL-2402.

Step 6 : Save the running configuration to Flash

Remember to save your running configuration to the flash, or the settings will be lost if you power-off IDL-2402.

Go to “**Maintenance → Database**” setting screen, select the “**(D) Save Running Config to Flash (System Config)** “. There are two partitions on flash, select your Partition which you want to save and click “**Write Running**”. The configuration will save to the Flash.

Cluster-Main Unit Refresh

- System
- 802.1x Security
- Bridge
- ADSL
- Traffic
- SNMP
- Maintenance
 - SYS Log Server
 - Database
 - Firmware Update
 - Boot Code Update
 - ATM Loopbacks
 - Fault Management
 - Performance Monitoring

Maintenance>>Database

DB Config Select: (D) Save Running Config to Flash (System Config)

Write flash at: Partition1 Write_Running

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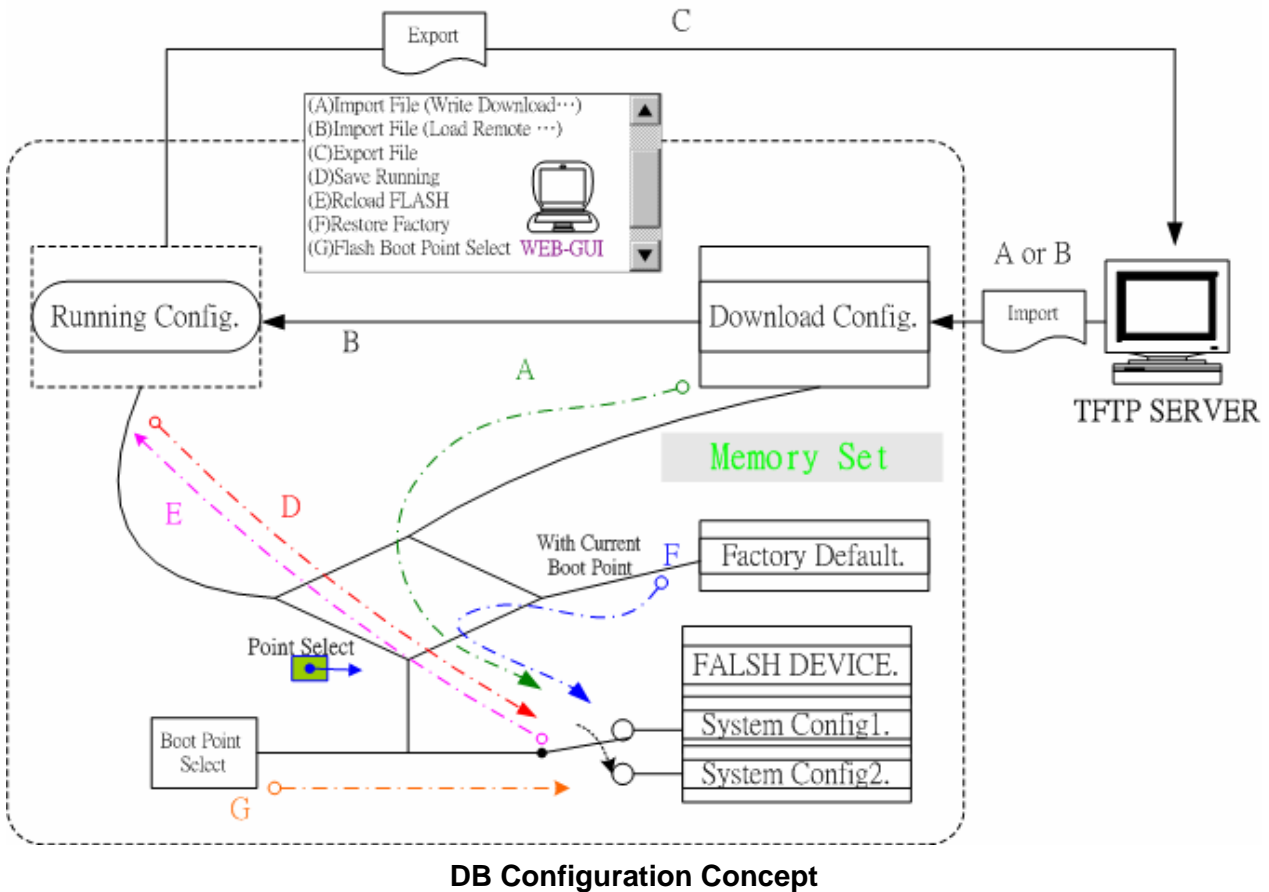
Note:

Default Partition is **Partition1**.

2.3.3 How to backup / Restore the Configuration

Configuration Import / Export

The IDL-2402 provides the configuration preservation feature that the configuration database is stored in flash memory (two partitions available). In addition to the configuration preservation feature, the IDL-2402 also provides the configuration export/import feature.



For CLI:

Suppose that TFTP Server IP address is 172.16.100.181 and configuration file name is 'testcfg':

(A) Import file from TFTP Server to the Download Config and then write Download Config to the Flash (partition 1 or partition 2).

Ex:

```
enable
configure
remotecfg login 172.16.100.181 get testcfg write partition <number>
```


(B) Import file from TFTP Server to the Download Config and then load Download Config to the Running Config.

Ex:

```
enable
configure
remotecfg login 172.16.100.181 get testcfg load
```

(C) Export: export file from Running config to the TFTP server.

Ex:

```
enable
configure
runningcfg login 172.16.100.181 put testcfg
```

(D) Save Running config to the Flash (partition 1 or partition 2).

Ex:

```
enable
configure
runningcfg write partition <number>
```

(E) Reload Flash data to the Running config

Ex:

```
enable
configure
runningcfg load partition <number>
```

(F) Set system configuration (current boot point) to factory default value

Ex:

```
enable
configure
restore-factory
```

(G) Select Configuration Flash Boot Point

Ex:

```
enable
configure
runningcfg active partition <number>
```

For Web:

On the menu tree, click on **Maintenance** --- > **Database**. The *Database Configuration* page is displayed. Select the database configuration action you want to perform.

Database Configuration

DB Config Select: [Select]
(A)Import File (Write Download Config To FLASH)
(B)Import File (Load Remote Config to Running Config)
(C)Export File (Put Running Config To Remote TFTP Server)
(D)Save Running Config to Flash(System Config)
(E)Reload FLASH(System Config) to Running Config
(F)Restore Factory Default
(G)Flash Boot Point Configuration Select

(A) Import File (Write Download Config To Flash):

Type in the TFTP Server IP address and the name of the file you want to download. Then click on **Get File** button.

Database Configuration

DB Config Select: (A)Import File (Write Download Config To FLASH)
Write flash at: Partition2
TFTP Server IP: 172.16.10.241 File Name: config1 <input type="button" value="Get File"/>

Write downloaded Config to Flash in progress:

Database Configuration

DB Config Select: (A)Import File (Write Download Config To FLASH)
Write flash at: Partition2
TFTP Server IP: 172.16.10.241 File Name: config1 <input type="button" value="Get File"/>
Action Name WRITE_DOWNLOAD
Action Status MEMORY WRITE IN PROGRESS

Write to memory successfully:

Database Configuration

DB Config Select:	(A)Import File (Write Download Config To FLASH)	▼	
Write flash at:	Partition2	▼	
TFTP Server IP:	172.16.10.241	File Name: config1	Get File
Action Name	WRITE_DOWNLOAD		
Action Status	MEMORY WRITE SUCCESS		

Fail to Get File:

DB Config Select:	(A)Import File (Write Download Config To FLASH)	▼	
Write flash at:	Partition2	▼	
TFTP Server IP:	172.16.10.28	File Name: config1	Get File
Action Name	GET_LOCAL		
Action Status	TFTP GET FAIL		

(B) Import File (Load Remote Config to Running Config)

Type in the TFTP Server IP address and the name of the file you want to download. Then click on **Get File** button.

Database Configuration

DB Config Select:	(B)Import File (Load Remote Config to Running Config)	
TFTP Server IP:	172.16.10.241	File Name: config1
		Get File

Load to Running Config successfully:

Database Configuration

DB Config Select:	(B)Import File (Load Remote Config to Running Config)	
TFTP Server IP:	172.16.10.241	File Name: config1
		Get File
Action Name	LOAD_REMOTE	
Action Status	MEMORY READ SUCCESS	

Fail to Get File:

Database Configuration

DB Config Select:	(B)Import File (Load Remote Config to Running Config)	
TFTP Server IP:	172.16.10.28	File Name: config1
		Get File
Action Name	GET_LOCAL	
Action Status	TFTP GET FAIL	

(C) Export File (Put Running Config to Remote TFTP Server)

Type in the TFTP Server IP address and the name of the file you want to export. Then click on **Put File** button.

Database Configuration

DB Config Select: (C)Export File (Put Running Config To Remote TFTP Server) ▼		
TFTP Server IP:	<input type="text" value="172.16.10.241"/>	File Name: <input type="text" value="config1"/>
		<input type="button" value="Put File"/>

TFTP put file successfully:

Database Configuration

DB Config Select: (C)Export File (Put Running Config To Remote TFTP Server) ▼		
TFTP Server IP:	<input type="text" value="172.16.10.241"/>	File Name: <input type="text" value="config1"/>
		<input type="button" value="Put File"/>
Action Name	PUT_REMOTE	
Action Status	TFTP PUT SUCCESS	

TFTP put file fail:

Database Configuration

DB Config Select: (C)Export File (Put Running Config To Remote TFTP Server) ▼		
TFTP Server IP:	<input type="text" value="172.16.10.28"/>	File Name: <input type="text" value="config1"/>
		<input type="button" value="Put File"/>
Action Name	PUT_REMOTE	
Action Status	TFTP PUT FAIL	

(D) Save Running Config to Flash (System Config)

Click on the drop-down list and select partition, and then click on **Write_Running** button to write running configuration to Flash.

Database Configuration

DB Config Select:	(D)Save Running Config to Flash(System Config) ▼
Write flash at:	Partition2 ▼ <input type="button" value="Write_Running"/>

Write running config to Flash successfully:

Database Configuration

DB Config Select:	(D)Save Running Config to Flash(System Config) ▼
Write flash at:	Partition2 ▼ <input type="button" value="Write_Running"/>
Action Name	WRITE_RUNNING
Action Status	MEMORY WRITE SUCCESS

(E) Reload Flash to Running Config

Click on the drop-down list and select partition, and then click on **LOAD_FLASH** button to load configuration from Flash to Running Config.

Database Configuration

DB Config Select:	(E)Reload FLASH(System Config) to Running Config	
Load flash at:	Partition2	LOAD_FLASH

Load configuration from Flash to Running Config successfully:

Database Configuration

DB Config Select:	(E)Reload FLASH(System Config) to Running Config	
Load flash at:	Partition2	LOAD_FLASH
Action Name	LOAD_FLASH	
Action Status	MEMORY READ SUCCESS	

(F) Restore Factory Default

Click on **Factory_Default** button to restore factory default configuration.

Database Configuration

DB Config Select: (F)Restore Factory Default

After loading default configuration to Flash successfully, you must click on **RESTART** button to restart the system so that the configuration can take effect.

Database Configuration

DB Config Select: (F)Restore Factory Default

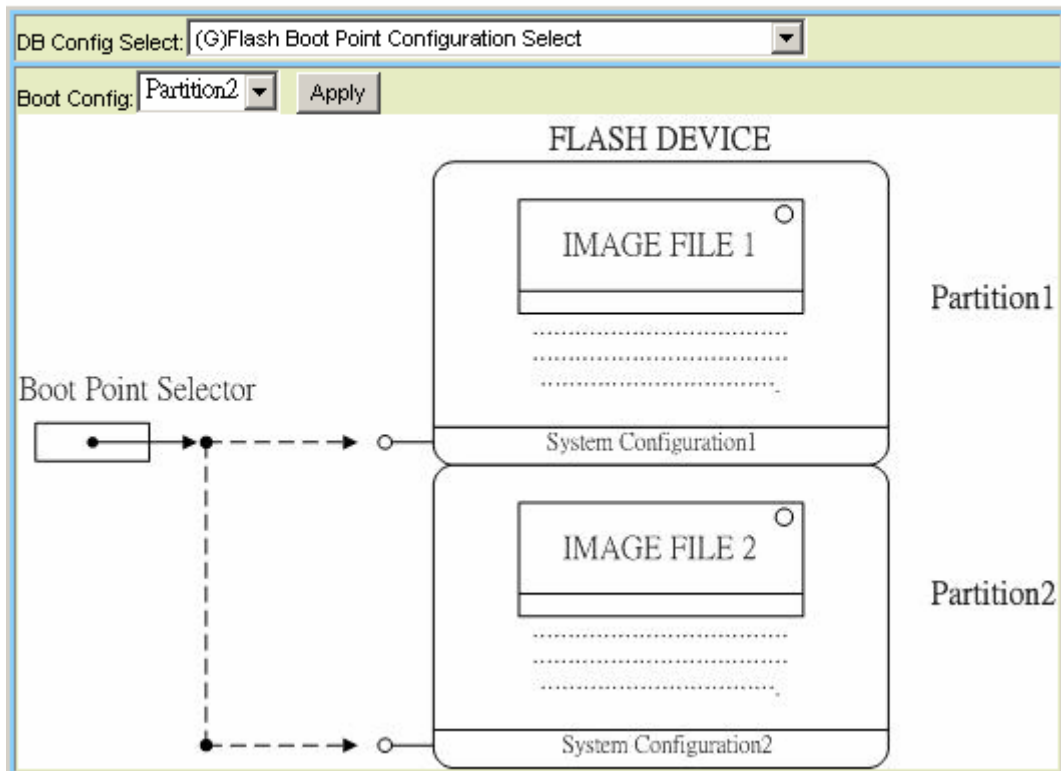
Action Name	RESTORE_FACTORY
Action Status	MEMORY WRITE SUCCESS

Would you like to restart system?

(G) Flash Boot Point Configuration Select

Click on the *Boot Config* drop-down list and select the partition (Partition1 or Partition2) as the boot point. Click on **Apply** button and then restart the system. The system will restart and load the configuration in the partition you select into the running configuration.

Database Configuration



2.3.4 Firmware Update

For CLI:

If you want to update firmware code, you must get image file from FTP Server. Suppose that FTP Server IP address is 172.16.10.219 and the image filename is 'vmlinux_u2402_ 1.00B05'.

Example:

1. Firmware update:

```
enable           //go to enable mode
configure       //go to configuration mode
firmware login 172.16.10.219 username share password tg123
firmware upgrade vmlinux_u2402_1.00B05
(Firmware upgrade may take a few minutes, don't turn off or reset the system
during the process. You can get status using command 'show firmware status' in
Enable execution mode.)

exit           //back to enable mode
show firmware status
(When status returns "Upgraded already!", you can restart the system to run
new firmware image. Once you upgrade successfully, you can't upgrade the
second time unless you have restarted the system.)
show firmware partition //show partition information
```

Current Version:1.00B05

Partition	Version	Date	Status
1	1.00B05	2007/07/05	--
2	1.00B05	2007/07/10	Active

(**Note:** the 'Active' status of the firmware partition information means the active partition for next time restart, not current running partition. You can see which partition is current running partition by referring to the Current Version.)

2. The IDL-2402 provides two firmware memory partitions. If you want to change the firmware partition for booting, use the following commands (if you change to the non-active partition, system will restart immediately):

```
enable           //go to enable mode
configure       //go to configuration mode
firmware partition <number> //select partition 1 or 2 for next power-on
```

For Web:

On the menu tree, click on **Maintenance** --- > **Firmware Update**. The *Firmware Update* page is displayed. Once you have entered all the necessary values, click on **Firmware Update** button to start updating the firmware.

Firmware Update			
Remote FTP Server IP	172 . 16 . 10 . 219 ; 21		
Server User Name	[share]		
Server Password	[****]		
File Name	[vmlinux_u2402_1.00B0]		
Firmware Update Status	No Action[0]		
Firmware Partition Select:	Partition 2		
Once system has 2 versions, an operator can use Partition Select from 1 to 2, vice versa. (e.g)Partition changes from version A.a to version B.b			
Partition Location	Version	Build Date	Status
Partition:1	1.00B05	2008/6/18	----
Partition:2	1.00B05	2008/8/29	Active
Current Version	1.00B05		
1.[Warning]Upgrading firmware may take a few minutes, please don't turn off or reset the system.			
2.Once the system has upgraded already, please restart it!			

Label	Description
Firmware Update	Once you have typed in the parameter values, click on this button to start firmware update.
Remote FTP Server IP	Type in the IP address of the FTP server.
Server User Name	Type in the ftp user name.
Server Password	Type in the ftp password.
File Name	Type in the firmware filename.
Firmware Update Status	This field shows current status of firmware update process.
Firmware Partition Select	Select firmware memory partition (Partition 1 or 2). If you change to the other partition (not current partition), the system will restart immediately.

Partition Information	This section displays the partition information including firmware version, updating date, and status (active or not). Note that active partition means the partition for next power-up, not current partition in use. You can refer to Current Version to know which partition is the current partition in use. When you update the firmware, new firmware will be written to the partition that is not currently in use.
-----------------------	---

FTP Get in progress:

The following message is displayed during getting file from FTP server.

```
incoming cluster id 0
FTP SERVER IP=172.16.10.219
Waiting for FTP Session (about 30 sec..)
```

Firmware Write in progress:

The Flash Write process may take a few minutes; **you must not turn off or reset the system during the process.**

Current Service	share@172.16.10.219, vmlinux u2402 1.00B05
Firmware Update Status - FLASH WRITE IN PROGRESS -	
1.[Warning]Upgrading firmware may take a few minutes, please don't turn off or reset the system.	
2.Once the system has upgraded already, please restart it!	

Firmware Write successfully:

When the Flash Write process has completed successfully, the Firmware Update Status shows "Firmware has upgraded already". You can now restart the system.

3. Software Introduction

3.1 General Overview

The software architecture of the IDL-2402 is shown in the figure below. It can be divided into three layers: the management layer, the OAM&P layer, and the firmware layer.

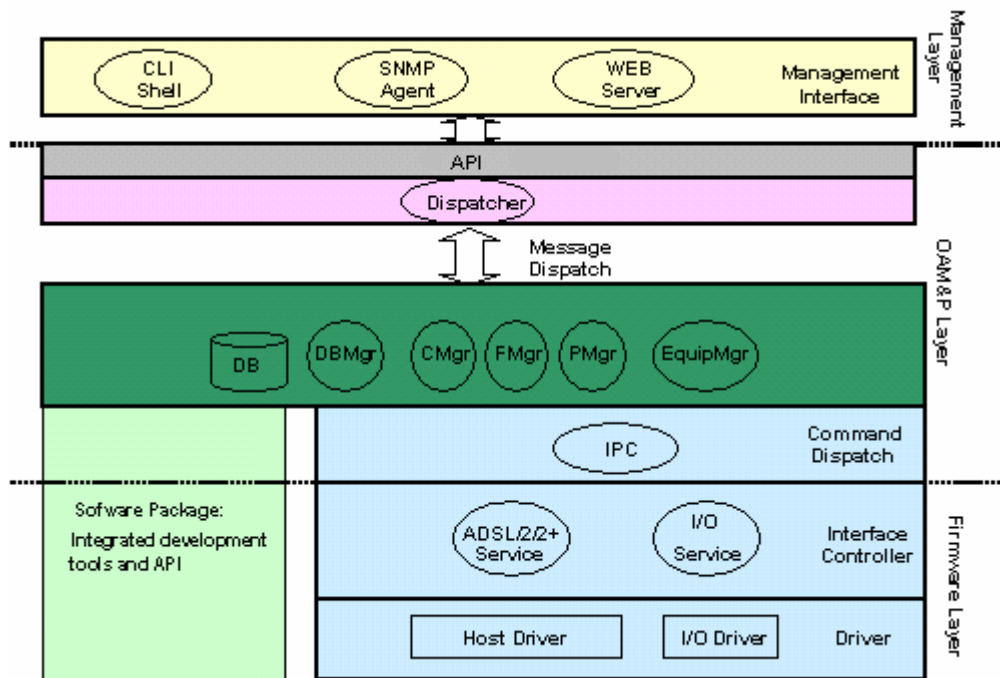


Figure 3-1 Management Software Model

As in the figure, CLI shell, SNMP agent, and WEB server are in the top-most layer (management layer) of the system software and offering OAM&P function of the DSLAM based on the conceptual management features as follows:

- **Configuration Management**
- **Performance Management**
- **Fault Management**

The IDL-2402 uses flash memory as the database (DB) to store system configuration parameters. The firmware layer includes ADSL drivers, Memory and I/O control, etc.

3.1.1 Features of Management Interface

- Support CLI, SNMP (v1, v2c), and web-based GUI management interface through in-band channels
- Support up to 10 CLI sessions at the same time
- The in-band management connection of the system is the highest priority of all supported in-band traffic categories
- Support Telnet interface for remote operators to login system operating console
- Support up to 32 configurable SNMP trap destinations and allow the SNMP traps to be sent to any specified SNMP aware device, for instance, Network management center

3.2 Configuration Management

The configuration management contains the following aspects:

1. System Setup, such as setup for management IP address/net mask, GBE interface (including to enable/disable and query the administrative/operational status of the trunk port), line port (including to enable/disable/reset ADSL port, query the administrative/operational status of the port, and bind profiles on a per port basis), CLI session and timeout, Cluster, SNTP, IP routes, and user administration (including login authorization and provides three security levels).
2. Bridge Configuration (see “3.2.1 Bridge Configuration” below for more description)
3. ADSL Configuration (see “

4. 3.2.2 ADSL Configuration” below for more description)
5. ATM traffic management
6. SNMP setup

The configuration management provides detecting and reporting to the operators through SNMP Trap for all memory updates reflecting changes in the system configuration. It also provides logging the changes in the operational state and making this information available (on-demand) to the operators over the operation interface.

The system contains a database (DB) to store all the provisioning data so that the configuration can be restored in re-booting. Authorized operators can query the DB to obtain configuration data.

3.2.1 Bridge Configuration

The bridge configuration of the IDL-2402 includes the following aspects:

- Interface setup
- VLAN configuration: static VLAN, protocol based VLAN, VLAN translation, and IP/MAC anti-spoofing.
- Access Control: Filtering, VLAN priority remark, rate limit, and priority queue mapping.
- Forwarding database
- DSL Line Identify
- IGMP configuration
- IPoA configuration

3.2.2 ADSL Configuration

Configuration for an ADSLx user port is provisioned by the parameter set, which is a group of attributes that determine the user port behaviors; and we call it as a profile. The IDL-2402 provides a profile-based provisioning per the definition of ITUT G997.1 and RFC 2662 for ADSL line configuration data and a mechanism to associate the ADSL port to these profiles. One or more ADSL lines may be configured to share parameters of a single profile.

The ADSL profiles of IDL-2402 include:

- **Service Profile**

The parameters include Rate adaptive mode selection, Min/max/planned bit rate, Interleaving Max delay, and Minimum impulse noise protection.

- **Spectrum Profile**

The parameters include the Power management setting, Min/max/target noise margin, allowed ADSL modes of operation, Carrier mask, RFI band data, Maximum nominal aggregate transmit power, Maximum PSD level, PSD shape (for ADSL2+), Power back off initiation, and Maximum aggregate receive power.

- **TCA Profile**

The parameters include ESs, SESs, UASs for interval and day PM, and LOS, LOF, LOPWR, LOL, Error Frame for interval PM only.

The system provides up to 120 Service profiles and Spectrum profiles respectively, and provides up to 16 TCA profiles. One of the profiles is a fix default that cannot be modified; users are allowed to create, and edit the other profiles. Each profile contains a parameter set for downstream and upstream direction respectively. Users can also observe the actual values of these parameters through CLI, Web-GUI, or EMS.

The ADSL configuration also includes the function for user to query the line status, the physical layer status, and the channel interface status for ATU-C and ATU-R. The status information includes the attenuation rate, actual net data rate, the line attenuation, SNR margin, transmission power, actual interleaving delay, channel characteristics per subcarrier, quiet line noise PSD, ...etc.

3.3 Performance management

Performance management supports performance monitoring by collecting and thresholding performance parameter counters against 15-minute intervals for each interface and module respectively. Users can query the data of these parameters through CLI and Web-GUI.

Performance statistics include the following:

1. Statistics for current interval:

A real-time aspect contains the reflection of the current value situation before the new interval. The current value includes values of current 15-min interval and current 1-day interval.

2. Statistics history at 15-minute basis:

The system stores previous 96 statistics of PM parameters at 15-min interval for retrieving.

3. Statistics history at 1-day basis:

The system stores previous 1 statistics of PM parameters at 1-day interval for retrieving.

Most of the performance parameter thresholds are user-programmable. The IDL-2402 uses a threshold crossing alert (TCA) to notify the management system when one of the counts during a measurement interval exceeds its threshold.

The TCA contains the following information:

- Specific interface involved
- Error condition identifying the measurement type
- Value of the parameter
- Occurrence date and time of the event

The performance management also provides the traffic counter including transmitted packets, error packets and discarded packets for each interface (network and subscriber interface) and ATM cell counter in both transmit and receive direction. Users can observe these data through CLI and Web-GUI.

ADSL PM

The IDL-2402 provides the following ADSL PM statistics:

Item	Description
ATUC_LOS	Loss of signal count
ATUC_LOF	Loss of frame count
ATUC_LOM	Loss of margin count
ATUC_LOL	Loss of link count
ATUC_ES	Errored Seconds
ATUC_SES	Severely Errored Seconds
ATUC_UAS	Unavailable Seconds
ATUC_ReInitCounter	The number of times the modem left showtime and tried to re-initialize the line because of detection of a persistent defect
ATUC_FailedInitCounter	The number of times the modem tries to initialize the line but fails.

ATUC_CU	User Total Cell Count
ATUC_CD	Delineated Total Cell Count
ATUC_HEC	ATM Header Error Count
ATUC_IBE	Idle Cell Bit Error Count
ATUC_CVS	The counter associated with the number of Coding Violations encountered by the channel.
ATUC_FECCS	The counter associated with the number of corrected codewords encountered by the channel.
ATUR_LOS	Far End Loss of signal count
ATUR_LOF	Far End Loss of frame count
ATUR_LOM	Far End Loss of margin count
ATUR_LPR	Far End Loss of power count
ATUR_ES	Far End Errored Seconds
ATUR_SES	Far End Severely Errored Seconds
ATUR_UAS	Far End Unavailable Seconds
ATUR_HEC	Far End ATM Header Error Count
ATUR_IBE	Far End Idle Cell Bit Error Count
ATUR_CVS	The far end counter associated with the number of Coding Violations encountered by the channel.
ATUR_FECCS	The far end counter associated with the number of corrected code words encountered by the channel.

The IDL-2402 provides the following ADSL PM thresholds:

NE threshold	FE threshold
15min ES threshold	15min ES threshold
15min SES threshold	15min SES threshold
15min UAS threshold	15min UAS threshold
15min LOS threshold	15min LOS threshold
15min LOF threshold	Not support
Not support	15min LOPWR threshold
15min LOL threshold	Not support
15min ErrFrm threshold	15min ErrFrm threshold
24hour ES threshold	24hour ES threshold
24hour SES threshold	24hour SES threshold
24hour UAS threshold	24hour UAS threshold

3.3.1 RMON Feature

The IDL-2402 supports performance statistics defined in RMON MIB groups 1 (Ethernet statistics), 2 (history control), 3 (Ethernet history), 4 (alarm), 5 (event), and 6 (log) per RFC 2819 for all network uplink 10/100/1000 ports. The supported parameters are as follows:

Table 3-1 RMON ETH Statistics variables

Variable	Description
Rx DropEvents	Monitoring rx dropped packets
Rx Bytes	Monitoring rx bytes packets
Rx Packet	Monitoring rx packets
Rx BroadcastPkts	Monitoring rx broadcast packets
Rx MulticastPkts	Monitoring rx multicast packets
Rx CRC Align Errors	Monitoring rx error alignment packets
Rx Undersize Pkts	Monitoring rx undersize packets
Rx Oversize Pkts	Monitoring rx oversize packets
Rx Fragments	Monitoring rx fragments packets
Rx Jabbers	Monitoring rx jabber packets
Tx Collisions	Monitoring tx single collision packets
Tx/Rx Pkts 64bytes	Monitoring tx/rx 64 bytes
Tx/Rx Pkts 65~127bytes	Monitoring tx/rx 65 to 127 bytes
Tx/Rx Pkts 128~255bytes	Monitoring tx/rx 128 to 255 bytes
Tx/Rx Pkts 256~511bytes	Monitoring tx/rx 256 to 511 bytes
Tx/Rx Pkts 512~1023bytes	Monitoring tx/rx 512 to 1023 bytes
Tx/Rx Pkts 1024~1518bytes	Monitoring tx/rx 1024 to 1518 bytes
Tx Bytes	Monitoring tx bytes packets
Tx Packet	Monitoring tx packets
Tx MulticastPkts	Monitoring tx multicast packets
Tx BroadcastPkts	Monitoring tx broadcast packets

Table 3-2 RMON ETH History Control variables

Variable	Description
HistoryDropEvents	Monitoring rx dropped packets
Historybytes	Monitoring rx bytes packets
HistoryPackets	Monitoring rx packets
HistoryBroadcastPkts	Monitoring rx broadcast packets
HistoryMulticastPkts	Monitoring rx multicast packets
HistoryCRCAAlignErrors	Monitoring rx error alignment packets

HistoryUndersizePkts	Monitoring rx undersize packets
HistoryOversizePkts	Monitoring rx oversize packets
HistoryFragments	Monitoring rx fragments packets
HistoryJabbers	Monitoring rx jabber packets
HistoryCollisions	Monitoring tx single collision packets
HistoryTxBytes	Monitoring tx bytes
HistoryTxPackets	Monitoring tx packets
HistoryTxMulticast	Monitoring tx multicast
HistoryTxBroadcast	Monitoring tx broadcast
HistoryUtilization	Monitoring tx Utilization

3.4 Fault Management

Fault management is conceptually partitioned into two levels: the system top level, and interface-specific level. Both levels are alarm-level configurable and can be Major and Minor. All the alarms are mask-able.

Fault management provides the alarm output through hardware output interface (on the system front panel) and visible indicator (LED). The alarm/status indications are automatically generated as a result of certain events/conditions. The IDL-2402 supports query of all current alarm status. It is also able to keep 256 records of historical alarms and events respectively.

The IDL-2402 provides the ability to group alarms in a hierarchical alarm presentation scheme. Alarms of the same rank can exist at the same time. A lower-ranking alarm will be demoted if a higher-ranking alarm is raised for the same object. For example, if a far-end LOS is raised on a circuit and then a far-end LPR is raised on the circuit, the LPR alarm stands and the LOS closes. The alarm hierarchy used in the IDL-2402 system is shown in the following table:

Table 3-3 IDL-2402 Alarm Hierarchy

Priority	Alarm Type
Highest	all activation failures (ADSL_COMMF_FE or ADSL_NOPEER_FE)
—	far-end LPR
—	near-end LOS or far-end LOS
Lowest	near-end LOF or far-end LOF (near-end and far-end are independent; for example, FE-LOS does not restrain NE-LOF)

Note: 1.LOM, LCD, and NCD are not included in the alarm hierarchy; they're treated independently.
2.The PM counters LPR, LOS, and LOF follow the alarm hierarchy rule. When these alarms exist at the same time, only the PM counter of a higher-ranking alarm will count (the PM counters of other lower-ranking alarms will not).

System Alarms

The IDL-2402 provides the following System alarms:

- Fan Failure Alarm
- Above Temperature
- Below Temperature
- Self-test Fail
- DSP Fail - you can see which DSP chip is fail from the user interface (Web GUI, CLI, etc.). There is a number 1 ~ 4 in the alarm message/description corresponding to the DSP chip 1 ~ chip 4

ADSL Alarms

The IDL-2402 provides the following ADSL alarms:

- LOS (Loss of Signal) -Near End/Far End
- LOF (Loss of Frame) -Near End/Far End
- LOM (Loss of Margin) -Near End/Far End
- LCD (Loss of Cell Delineation) -Near End/Far End
- NCD (No Cell Delineation) -Near End/Far End
- LOPWR (Loss of Power) -Far End
- COMMF: Unable to communicate with peer modem -Far End
- NOPEER: No peer present – Far End

3.5 Loopback Testing

The IDL-2402 supports ATM and ADSL loop diagnostics.

ATM:

The system provides F5 end-to-end or segment loopback.

ADSL:

The system provides Dual Ended Loop Testing (DELT) for each ADSL line on a per port basis, according to the definition per section 8.12.3 of ITUT G992.3.

The following test parameters are supported:

- Channel Characteristics Function $H(f)$ per subcarrier (CCF-ps),
- Quiet Line Noise PSD $QLN(f)$ per subcarrier (QLN-ps),
- Signal-to-Noise Ratio $SNR(f)$ per subcarrier (SNR-ps),
- Line Attenuation (LATN),
- Signal Attenuation (SATN),
- Signal-to-Noise Ratio Margin (SNRM),
- Attainable Net Data Rate (ATTNDR),
- Far-end Actual Aggregate Transmit Power (ACTATP),
- Near-End Actual Aggregate Transmit Power (ACTATP).

3.6 Cluster Feature

The IDL-2402 supports Cluster feature that can make a group of NEs (network elements) work together as a single NE from the management point of view. Operators can manage the NEs in a cluster, called cluster nodes, via the same single IP address in terms of CLI, Web-based GUI or SNMP based management interfaces. The IDL-2402 currently provides cluster feature that a cluster can include up to four cluster members (NEs). There are one Master and the other members are all Slaves in a cluster. The Master works as a gateway of the Slaves, and it also can forward CLI/Web/SNMP commands to the destination Slave. The Slaves can execute the commands and respond to the Master. It uses star topology for conducting a Clustering Management group.

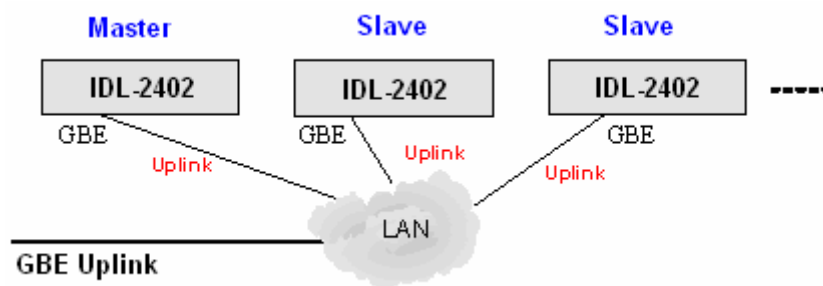


Figure 3-2 Cluster network topology – Star

Before you group a Master and a Slave IPDSLAM, some parameters need to be well configured:

1. **Cluster domain name:** The group name for a cluster must be the same on Master and Slave.
2. **Cluster IP address:** IP address to be used for remote management when Master and Slave are grouped together.
3. **NE cluster name:** A name to identify Master or Slave.
4. Set private IP address on in-band port for both Master and Slave IPDSLAM. The private IP is used for communication between Master and Slave. The management center actually uses Cluster IP address for remote management.
5. Master and Slave need to be configured with same management VLAN.
6. The default gateway should be configured to the router that is aware how to route management traffic to Management Center of the management network. The setting of Cluster default gateway should be the same between Master and Slave.

4. WEB Management

Web Configuration Tool Overview

To access Web Configuration Tool on an IDL-2402:

1. Connect a PC to the console port of the DSLAM. At the console, type the following CLI command:

WDS:>enable /*enter the enable command mode from initial mode*/

WDS:%show management all /*display all in-band management IP setting*/

The default LAN IP address is got via DHCP.

2. At your web browser, enter the URL you retrieve by using the above command. If you need to change the accessing port number (default is 80) of the Web Configuration Tool, use the following CLI command (with the correct values added):

WDS:%configure /*enter the configuration command mode from enable mode*/

WDS:(conf)#http port <number> /*set http port number*/

3. Logging in to Web Configuration Tool:

Once you connect to the DSLAM, a login page is displayed. You must enter your username and password to access the pages. The default login username and password are as follows:

User Name: **admin**

Password: **admin**

Click on the **Sign in** button.

You are now ready to configure your DSLAM using the Web Configuration Tool.

Web Interface Login

Username:

Password:

- Level 1: SuperUser, R/W Management all
- Level 2: Engineer, R/W (Disabled from User Account)
- Level 3: Guest, Read only

Figure 4-1 Web Configuration Tool login page

- The following page is displayed. This is the homepage of the Web Configuration Tool.

The screenshot displays the 'System Information' page of the Web Configuration Tool. On the left is a blue sidebar with a navigation menu and a 'Cluster-Main Unit' dropdown. The main content area is titled 'System Information' and contains three sections: 'ACCESS LOGIN', 'SYSTEM VERSION', and 'GIGA STATUS'. Each section contains a table of system parameters.

ACCESS LOGIN				
Access Level	System Date	FW Boot	Active DB	Current DB
Super user	2008/09/09	Partition-1	Partition-1	Partition-1

SYSTEM VERSION				
Hardware	Firmware	Software	Web	Circuit:1~24
C	1.00B05	1.00B05	Mx-06.17b	AnnexA

GIGA STATUS				
Gigal	SYS LED	ALM LED	Bridge MAC	Gigal MAC
Config Enabled	●	●	00:30:4F:71:99:0A	00:30:4F:71:99:09

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Figure 4-2 Web Configuration Tool homepage

About Web Configuration Tool Pages

The Web Configuration Tool provides a series of web pages for users to setup and configure the IDL-2402 System. These pages are organized into six main topics including **System**, **Bridge**, **ADSL**, **Traffic**, **SNMP**, and **Maintenance**. You can select each topic from the menu on the left-hand side of the main window. Table 4-1 lists the various pages of the web configuration tool.

The exact information displayed on each web page depends on the specific configuration that an operator is using. The following chapters provide a general description of the setup and configuration details.

Table 4-1 Pages of the Web Configuration Tool

System	<i>System Information</i>	
	<i>Board IP Setup</i>	
	<i>Ethernet Port Service</i>	
	<i>ADSL Port Service</i>	
	<i>CLI Setup</i>	
	<i>Cluster Setup</i>	
	<i>System Inventory</i>	
	<i>SNTP</i>	
	<i>IP Routes</i>	
	<i>User Administration</i>	
	<i>Duplicator</i>	
802.1x Security	<i>System Protocol</i>	
	<i>RADIUS & Local Profile</i>	
Bridge	Interface Setup	<i>GIGA Bridge</i>
		<i>ADSL PVC</i>
		<i>ADSL Bridge</i>
		<i>ADSL Port Security</i>
	VLAN Configuration	<i>Static VLAN</i>
		<i>Protocol Based VLAN</i>
		<i>Translation VLAN</i>
		<i>Static Allowed IP</i>
		<i>MAC Spoofing</i>
	Access Control	<i>Filtering</i>
		<i>VLAN Priority Remark</i>
		<i>Rate Limit</i>
		<i>Priority Queue Mapping</i>
	Forwarding	<i>TP Forwarding DB</i>
		<i>Forwarding Static</i>

	Relay	<i>DSL Line Identify</i>	
	IGMP	<i>Protocol & Route Port</i>	
		<i>IGMP Profile</i>	
		<i>IGMP Multicast</i>	
	IPOA	<i>BRAS MAC</i>	
<i>Interface Setup</i>			
ADSL	Profile	<i>Service Profile (main)</i>	
		<i>Service Profile (Channel)</i>	
		<i>Spectrum Profile (main)</i>	
		<i>Spectrum Profile (ADSLx)</i>	
		<i>TCA Profile</i>	
	Data & Inventory	<i>Inventory</i>	
		<i>Loop Test</i>	
		<i>Carrier Data</i>	
		<i>OP Data</i>	
	Line Config & Info	<i>Line Configuration</i>	
		<i>Line Information</i>	
	Traffic	<i>ATM Traffic Descriptor</i>	
	SNMP	<i>SNMP Community</i>	
<i>SNMP Target</i>			
<i>SNMP Notify</i>			
Maintenance	<i>SYS Log Server</i>		
	<i>Database</i>		
	<i>Firmware Update</i>		
	<i>ATM Loopbacks</i>		
	Fault Management	<i>Alarm/Event</i>	
		<i>Alarm Profile</i>	
		<i>Hardware Temp.</i>	
	Performance Monitoring	<i>System Utilization</i>	
		<i>Ethernet Statistics</i>	
		<i>ATM Statistics</i>	
		<i>RMON</i>	
<i>ADSL Day/Interval</i>			

4.1 System

4.1.1 System Information

The *System Information* page (the default page you'll see after you login the web configuration tool) contains information about the user access level, current system date and time, current boot configuration partition, system MAC address, system HW/SW/FW version, web configuration software version, supported subscriber line type (AnnexA or AnnexB), GBE interface status, and LED status (SYS and ALM).

From the *System* menu, click on *System Info*. The following page is displayed:

The screenshot displays the 'System Information' page. On the left is a blue sidebar with a menu: Cluster-Main Unit (dropdown), Refresh (button), and a list of menu items: System, 802.1x Security, Bridge, ADSL, Traffic, SNMP, and Maintenance. The main content area has a title 'System Information' and three sections: 'ACCESS LOGIN', 'SYSTEM VERSION', and 'GIGA STATUS'. Each section contains a table of system parameters.

Access Level	System Date	FW Boot	Active DB	Current DB
Super user	2008/09/09	Partition-1	Partition-1	Partition-1

Hardware	Firmware	Software	Web	Circuit:1~24
C	1.00B05	1.00B05	Mx-06.17b	AnnexA

Giga1	SYS LED	ALM LED	Bridge MAC	Giga1 MAC
Config Enabled	●	●	00:30:4F:71:99:0A	00:30:4F:71:99:09

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System Information Page

4.1.2 Board IP Setup

This option allows you to configure the in band IP address setting, VID management setting, HTTP port setting, etc. From the *System* menu, click on *Board IP Setup*. The following page is displayed:

Board IP Setup

Modify		RESTART	
Inband Address			
IP Address	192 . 168 . 100 . 1	Subnet Mask	255 . 255 . 255 . 0
Inband VID Management			
NO Limit VID	<input checked="" type="checkbox"/>	Limit VID	<input type="text"/>
			Priority 0 ▾
HTTP Port	Remote IP	System Name	
80	192.168.8.193	u13726b	
[System Inventory]			
Modify the configuration may cause the connection loss			

Board IP Setup Table

Label		Description
In Band Address	IP Address	Type in the IP address of the DSLAM for in-band management.
	Subnet Mask	Type in the in-band subnet mask of the DSLAM.
Inband VID Management	No Limit VID	Select this checkbox if no specific in-band management VLAN is required, and the setting in "Limit VID" parameter will be ignored.
	Limit VID	The VLAN ID for individual in-band management VLAN.
	Priority	Select the VLAN priority level (0~7) of the in-band management traffic sent out from GBE port.
HTTP Port		Shows current HTTP port setting for Web access. You can modify http port setting in this field.
Remote IP		Shows the IP address of the management PC currently connected to this DLSAM.
System Name		You can modify the name of the system here.
Modify		Click on this button to submit the modification.
RESTART		Click on this button to restart the system.

4.1.3 Ethernet Port Service

This option allows you to set the administration state and select the speed mode for the Gigabit Ethernet ports. From the *System* menu, click on *Ethernet Port Service*. The following page is displayed:

Ethernet Port Setup

<input type="button" value="Modify"/>					
Port	Admin Status	Selected Speed	Link Status	Current Speed	Current Media
1	Admin ON ▾	AutoNegotiate ▾	OFF	down	N/A
[System Inventory]					

Ethernet Port Service Setup

Label	Description
Port	This field shows port number of the Gigabit Ethernet interface.
Admin Status	Click on the drop-down list and select the administrative state (ON/OFF) to enable/disable the GBE port.
Selected Speed	Click on the drop-down list and select the speed mode for trunk GBE port. Supported options are: AutoNegotiate, 100Mbps Half (duplex), 100Mbps Full (duplex).
Link Status	Show operational status of the trunk ports (ON/OFF).
Current Speed	Show current speed mode of the trunk ports.
Current Media	Show current uplink transmission medium (via copper or SFP). This field will show N/A when Oper Status is OFF.
Modify	Click on this button to submit the modification.

4.1.4 ADSL Port Service

This option allows you to setup the service status of the line ports and to bind the selected service profiles and spectrum profiles. Also, you can query current setting and the operational status of the line ports. From the *System* menu, click on *ADSL Port Service*. The following page is displayed:

First click on the drop-down list to select the port range to be displayed. Remember to click on the radio button to select a port to be modified (or select the **All** checkbox to modify all ports of the page at a time).

ADSL Circuit Service

Admin Service Profile Spectrum Profile TCA Profile All

The Service Profile range from 1 to 120
 The Spectrum Profile range from 1 to 120
 The TCA Profile range from 1 to 64

Port 01~12

Select	Port	Admin Status	Current Status	Service Profile	Spectrum Profile	TCA Profile
<input checked="" type="radio"/>	1	ON	ON	1	1	1
<input type="radio"/>	2	OFF	OFF	1	1	1
<input type="radio"/>	3	OFF	OFF	1	1	1
<input type="radio"/>	4	OFF	OFF	1	1	1
<input type="radio"/>	5	OFF	OFF	1	1	1
<input type="radio"/>	6	OFF	OFF	1	1	1
<input type="radio"/>	7	OFF	OFF	1	1	1
<input type="radio"/>	8	OFF	OFF	1	1	1
<input type="radio"/>	9	OFF	OFF	1	1	1
<input type="radio"/>	10	OFF	OFF	1	1	1
<input type="radio"/>	11	OFF	OFF	1	1	1
<input type="radio"/>	12	OFF	OFF	1	1	1

[[SERVICE PROFILE](#) | [SPECTRUM PROFILE](#) | [TCA PROFILE](#)]

Table 0-1 ADSL Circuit Setup

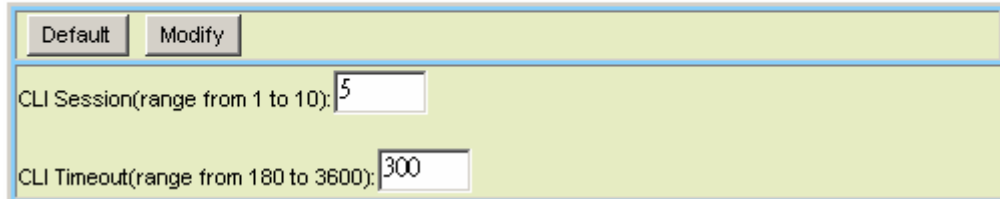
Label	Description
Admin	Click on the drop-down list and select the Administrative status: ON, OFF, or RESET.
Service Profile	Type in the index of the Service Profile (1~120).
Spectrum Profile	Type in the index of the Spectrum Profile (1~120).

TCA Profile	Type in the index of the TCA Profile (1~64).
All	Select the check box to select all circuits of current page.
Modify	Click on this button to submit the modification.
Query	Click on this button to get most recent status of the circuits.
Select	Click on the radio button to select the port to be modified.
Current Status	This field shows the operational status of the line ports. Possible values are ON (enabled), OFF (disabled), and Testing (in loop testing now).

4.1.5 CLI Setup

This option allows you to modify the timeout setting for a CLI session and the allowable number of CLI sessions. From the *System* menu, click on *CLI Setup*.

CLI Setup



CLI Setup

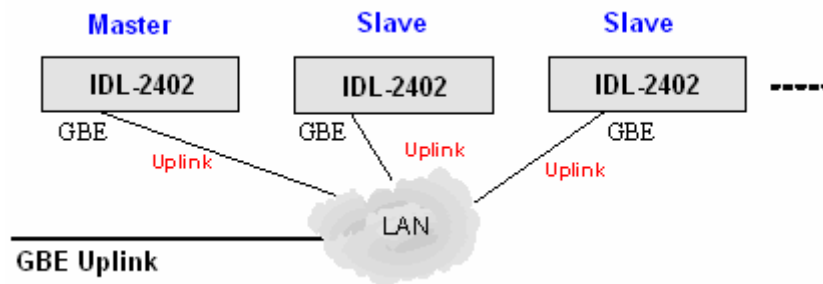
Label	Description
CLI Session	Allowable number of CLI sessions at the same time. Valid value: 1~10.
CLI Timeout	CLI session will be closed once the idle time exceeds this timeout value. Valid value: 180~3600 (sec).
Default	Click on this button to set default values (CLI session: 5, CLI timeout: 300 sec).
Modify	Click on this button to submit the modification.

4.1.6 Cluster Setup

This option allows you to setup Cluster function, which can make a group of NEs (network elements) work together as a single NE from the management point of view. Before you group a Master and a Slave IPDSLAM, some parameters need to be well configured:

1. **Cluster domain name:** The group name for a cluster must be the same on Master and Slave.
2. **Cluster IP address:** IP address to be used for remote management when Master and Slave are grouped together.
3. **NE cluster name:** A name to identify Master or Slave.
4. Set private IP address on in-band port for both Master and Slave IPDSLAM. The private IP is used for communication between Master and Slave. The management center actually uses Cluster IP address for remote management.
5. Master and Slave need to be configured with same management VLAN.
6. The default gateway should be configured to the router that is aware how to route management traffic to Management Center of the management network. The setting of Cluster default gateway should be the same between Master and Slave.

Currently a IDL-2402 cluster can support up to **four** cluster members (NEs). The IPDSLAMs in a cluster must all be in-band connected through the GBE port. It uses star topology for conducting a Clustering Management group.



Cluster network topology – Star

From the *System* menu, click on *Cluster Setup*. The following page is displayed:

Cluster Setup

Cluster Configuration			
<input type="button" value="Modify"/>		<input type="button" value="Query"/>	
State	IDLE		
Name	NE2	IP	172 . 16 . 77 . 88
Domain	dvt	Netmask	255 . 255 . 255 . 0
Role	Individual	Gateway	172 . 16 . 77 . 177
Voting key	0		

By default, the DSLAM is not in a cluster. The state of the Cluster Configuration shows “IDLE” and the Role shows “Individual”.

To make the DSLAM join a cluster, select the Role as “Cluster” or “Slave only” according to your plan and then click on Modify. The state of the Cluster Configuration will show from **DISCOVERING** to **VOTING** to **MASTER** or **SLAVE** at last.

Cluster Setup

Cluster Configuration				
<input type="button" value="Modify"/> <input type="button" value="Query"/>				
State	DISCOVERING			
Name	<input type="text" value="NE2"/>	IP	<input type="text" value="172 . 16 . 77 . 88"/>	
Domain	<input type="text" value="dvt"/>	Netmask	<input type="text" value="255 . 255 . 255 . 0"/>	
Role	<input type="text" value="Cluster"/>	Gateway	<input type="text" value="172 . 16 . 77 . 177"/>	
Voting key	<input type="text" value="0"/>			

The following figure shows the Cluster Setup page of a cluster containing two cluster members. You will see the following page if you’re connecting directly to the Master via its in-band IP address or connecting to the Cluster IP “172.16.77.88”. You can control all the IP DSLAMs in a cluster by connecting to the Cluster IP address, or by directly connecting to the Master IPDSLAM via its in-band IP address that is configured in the *Board IP Setup* page (refer to section 4.1.2).

Cluster Setup

Cluster Configuration				
<input type="button" value="Modify"/> <input type="button" value="Query"/>				
State	MASTER			
Name	<input type="text" value="NE1"/>	IP	<input type="text" value="172 . 16 . 77 . 88"/>	
Domain	<input type="text" value="dvt"/>	Netmask	<input type="text" value="255 . 255 . 255 . 0"/>	
Role	<input type="text" value="Cluster"/>	Gateway	<input type="text" value="172 . 16 . 77 . 177"/>	
Voting key	<input type="text" value="0"/>			
ID	IP	Role	Name	Domain
1	20.20.20.1	Master	NE1	dvt
2	20.20.20.2	Slave	NE2	dvt

Cluster Setup

Label	Description
Name	Type in the NE name in the cluster.
Domain	Type in the name of the cluster domain.
Role	Valid options are: Cluster (Master or Slave is decided by the system), Slave only (role of the DLSAM is always Slave), and Individual (not in a cluster).
Voting Key	Type in 0 or a positive integer as the priority to be Master. 0 means to let system decides Master and Slaves. If positive integer is typed in, the smaller the number is, the higher priority

	for the DSLAM to be a master in a cluster. But if there's already a Master in a cluster, a new added DSLAM cannot try to be the Master by entering a smaller voting key number; the Master cannot be changed in this way.
IP	Type in the cluster IP address. Users can connect to and manage the cluster via the cluster IP address through in-band connection.
Netmask	Type in the cluster's subnet mask.
Gateway	Type in the cluster's gateway IP address.
ID	This field shows Cluster ID, which indicates cluster ordering.
Modify	Click on this button to submit the modification.
Query	Click on this button to query current status.

To control a member in the cluster:

Select a Cluster member from the drop down list above the menu tree. Then you are controlling that NE now.

Cluster Setup

Cluster Configuration

State	SLAVE			
Name	NE2	IP	172 . 16 . 77 . 88	
Domain	dvt	Netmask	255 . 255 . 255 . 0	
Role	Slave Only ▾	Gateway	172 . 16 . 77 . 177	
Voting key	0			

Cluster Information

ID	IP	Role	Name	Domain
1	20.20.20.1	Master	NE1	dvt
2	20.20.20.2	Slave	NE2	dvt

Every time you modify the setting (for example, changing the Role) of any cluster member, the cluster will be reconstructed (cluster state Discovering → Voting → Master or Slave).

If you modify the Role to "Individual", Cluster State will show 'IDLE'. The DSLAM is not in a cluster now.

If you are directly connecting to a Slave in the cluster (connecting via its in-band IP address) you cannot switch to any other member in the cluster.

4.1.7 System Inventory

This option allows you to retrieve the system inventory including Description of the System, HW/FW/SW Version, Model Information, Part Number, Hardware Revision, and Serial Number. From the *System* menu, click on *System Inventory*. Click on the **Query** button. The following page is displayed:

Query			
Description	Hardware	Firmware	Software
24-Ports ADSL 2/2+ IP DSLAM	C	1.00B05	1.00B05
Model Information	Part Number	HW Revision	S/N
IDL-2402	GF30F-B1234-AAA1234	AAA	ABC1234567

4.1.8 System Contact Info

This option allows you to specify the system name, system contact, and system location. From the *System* menu, click on *System Contact Info*. The following page is displayed:

System Contact Information

<input type="button" value="Query"/> <input type="button" value="Modify"/>	
Name	IDL-2402
Contact	
Location	
Description	24-Ports ADSL 2/2+ IP DSLAM

Type in the value you desire, and then click on **Modify** to apply the setting. Click on **Query** to verify if the value is changed.

4.1.9 SNTP

This option allows you to setup the Simple Network Time Protocol (SNTP). From the *System* menu, click on *SNTP*. The following page is displayed.

Simple Network Time Protocol

<input type="button" value="Modify"/>		
Time Zone	(25) 0, 0, GMT ,Greenwich Mean Time	
System Date	2008 / 08 / 04	
System Time	06 : 15 : 02	
Polling Interval (60..65535) sec	600	
SNTP Server address	61 . 206 . 115 . 3	

SNTP Setup

Label	Description
Time Zone	Sets the local time zone by selecting in the Time Zone drop-down list. Sixty-five of the world's time zones are presented (including those using standard time and summer/daylight savings time).
System Date	Sets system date (yyyy/mm/dd).
System Time	Sets system time (hh:mm:ss).
Polling Interval	Sets the polling interval (in seconds) that SNTP client will sync with a designated SNTP server.
SNTP Server address	Sets the dedicated unicast server IP address for which the SNTP client can synchronize its time.
Modify	Click on this button to submit the modification.

4.1.10 IP Routes

This option allows you to configure the IP route table for the in-band management traffic. From the *System* menu, click on *IP Routes*. The following page is displayed:

Click on the drop-down list to select the page to be displayed first.

IP Routes

System Gateway <input type="text" value="172"/> . <input type="text" value="31"/> . <input type="text" value="1"/> . <input type="text" value="254"/> <input type="button" value="Set"/>				
Next No: 5 <input type="button" value="ADD Next"/>				
	Destination	Net Mask	Gateway	
Next →	[0 . 0 . 0 . 0]	[0 . 0 . 0 . 0]	[0 . 0 . 0 . 0]	
Page 1 of 2 <input type="button" value="Delete"/>				
Delete Select	No	Destination	Net Mask	Gateway
<input type="radio"/>	1	192.168.8.0	255.255.255.0	172.16.100.73
<input type="radio"/>	2	192.168.7.0	255.255.255.0	172.16.100.73
<input type="radio"/>	3	192.168.9.0	255.255.255.0	172.16.100.73
<input type="radio"/>	4	192.168.5.0	255.255.255.0	172.16.100.73
<input type="radio"/>	5	--	--	--
<input type="radio"/>	6	--	--	--
<input type="radio"/>	7	--	--	--
<input type="radio"/>	8	--	--	--

IP Route Setup

Label	Description
System Gateway	This field shows current system default gateway. You can modify the gateway address by typing in new value and then click on Set . If the DSLAM is a Slave in a cluster, this field shows the in-band IP address of the Master; if the DSLAM is a Master in a cluster, this field shows the IP address of the Cluster gateway.
ADD Next	Click on this button to add a new IP route.
Destination	Type in the destination IP address for the new IP route.
Net Mask	Type in the subnet mask for the new IP route.
Gateway	Type in the IP address of the gateway for the new IP route.
Delete Select	Click on the radio button to select a route and then click on Delete to remove this route from the table.

4.1.11 User Administration

This option allows you to administer accounts for users who access the DSLAM. From the *System* menu, click on *User Administration*. Click on *Select*: drop-down list and select a page to display. The following page is displayed:

[User Administration](#)

The screenshot shows a web interface for user administration. At the top, there is a 'Page:' dropdown menu set to 'Page 1 of 4(No.1 to 8)'. Below this are buttons for 'New', 'Delete', and 'Modify'. A note states: 'The "admin" account supports without deleting.' Below the buttons is a table with the following data:

(modify/delete) Select	No.	User Name	Level	Aging day	Start Date	Last Login	Comment
<input checked="" type="radio"/>	1	admin	Super	0		2008/04/23	
<input type="radio"/>	2	test1	Guest	0		2008/04/23	comment2

User Administration

Label	Description
Page	Click on the drop-down list and select the page to be displayed.
New	<p>Click on this button to create a new user. You will enter the following page:</p> <p style="text-align: center;">User Administration</p> <hr/> <p>The 'New' form contains the following fields: 'Create' button, 'Back' button, 'User Name' (username2), 'Password' (*****), 'Access Level' (GUSET dropdown), 'Expire Day' (0), and 'Comment' (comment2).</p> <p>Once you have typed in all the information for the new user, click on the Create button.</p>
Delete / Modify	Click on the radio button on the leftmost column of the user table to select the user you want to delete / modify. Then click on Delete / Modify button. Note that the default admin user cannot be deleted.

User Name	Shows the name of the user (up to 32 characters).
Level	The available access levels include: SUPERUSER, ENGINEER, and GUEST.
Aging day	Set password expiration days (0 for no expiration days)
Start Date	Shows the day when the account was first created.
Last Login	Shows the day when a user last login.
Comment	Description about the user account (up to 31 characters).

When a new account is added: (for example, **Test1** is added)

When user **Test1** intends to login for the first time, he will be asked to change his password and then login with the new password.

4.1.12 Duplicator

This option allows you to duplicate all/partial the configurations of one selected line port (as a template) to other ports (as many as you want). From the *System* menu, click on *Duplicator*. The following page is displayed. Select the content of configurations (ADSL line configuration, ADSL profiles, or...) you want to duplicate first. Then specify the port number as the template (the source port to be copied), and select the target ports to which the template is going to be copied. At last click on **Paste** to apply.

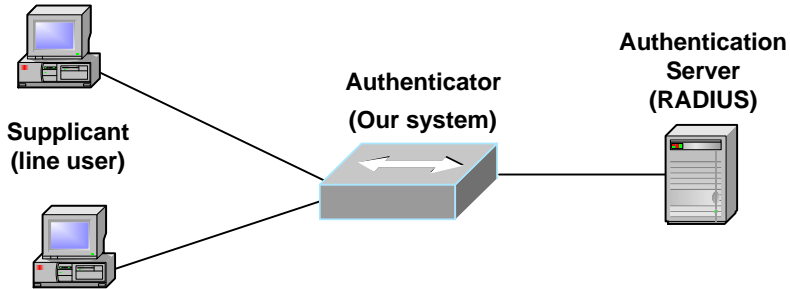
System Duplicator

Templated ADSL Port <input type="text" value="1"/>		
<input type="button" value="Paste"/>		
To be duplicated ADSL Port:		
01 <input type="checkbox"/>	02 <input type="checkbox"/>	
03 <input type="checkbox"/>	04 <input type="checkbox"/>	
05 <input type="checkbox"/>	06 <input type="checkbox"/>	
07 <input type="checkbox"/>	08 <input type="checkbox"/>	
09 <input type="checkbox"/>	10 <input type="checkbox"/>	
11 <input type="checkbox"/>	12 <input type="checkbox"/>	
13 <input type="checkbox"/>	14 <input type="checkbox"/>	
15 <input type="checkbox"/>	16 <input type="checkbox"/>	
17 <input type="checkbox"/>	18 <input type="checkbox"/>	
19 <input type="checkbox"/>	20 <input type="checkbox"/>	
21 <input type="checkbox"/>	22 <input type="checkbox"/>	
23 <input type="checkbox"/>	24 <input type="checkbox"/>	
Select	Function	Decription
<input type="checkbox"/>	ADSL Line Configuration	ADSL Line configuration
<input type="checkbox"/>	ADSL Profiles	Service profile, Specturm profile and TCA profile have serviced in ADSL Port
<input type="checkbox"/>	ADSL Port Admin Status	ADSL line Admin Status
<input type="checkbox"/>	DSL Identify Trust	DSL Identify Trusted Status
<input type="checkbox"/>	PVC VLAN BRIDGE	ADSL Port PVC,Bridge and VLAN Settings
<input type="checkbox"/>	IGMP ACL	IGMP ACL Profile in Binding table
<input type="checkbox"/>	FILTERING	All of the Filtering
<input type="checkbox"/>	Priority Remark	VLAN Priority Remark table exclude Re-Generation function
<input type="checkbox"/>	Priority Re-Generation	The Re-Generation function in VLAN VLAN Priority Remark table
<input type="checkbox"/>	Ether policer	Ether policer of the Rate limit table

4.2 802.1x Security

4.2.1 System Protocol

This option allows you to enable/disable 802.1x authentication function of the system, and setup the 802.1x authentication mechanism for each line bridge port. Before you setup 802.1x for a line bridge port, you must create the ADSL PVC (bridge port) first.



From the **802.1x Security** menu, click on *System Protocol*. The following page is displayed:

Main Setting

System Protocol

System Authentication
 802.1x Enabled

Port Authentication

* Stands for default value
 [1]Accounting Interim Interval (300*.600)Second
 [2]All of the Max.Request(1,2*.10)

Select Port	Enable	Accounting Control	Accounting Interval	Port Control	Max Request Authentication	ReAuthentication Control	Max Request ReAuthentication
01	<input type="checkbox"/> OFF	OFF	300	Auto	2	OFF	2
02	Select	Select		Select		Select	
03	Select	Select		Select		Select	
04	Select	Select		Select		Select	
05	Select	Select		Select		Select	
06	Select	Select		Select		Select	
07	Select	Select		Select		Select	
08	Select	Select		Select		Select	
09	Select	Select		Select		Select	
10	Select	Select		Select		Select	
11	Select	Select		Select		Select	
12	Select	Select		Select		Select	

[\[ADSL PVC CONFIGURATION \]](#)

System Protocol Setup - Main Setting

Label	Description
System Authentication section	
Click on the drop-down list to enable or disable the 802.1x authentication function of the system. If you select "Disabled", any setting in the <i>Port Authentication</i> section will not take effect.	
Port Authentication section – Main Setting	
<div style="display: flex; gap: 10px;"> Port 01~12 ▾ PVC-1 ▾ </div>	Select the line bridge port range to be listed.
Select Port	Remember to select the checkbox when you want to modify/delete the setting of a bridge port or set a bridge port to its default value.
Enable	OFF/ON: disable/enable 802.1x authentication function for the bridge port. When 802.1x is disabled, the system allows bidirectional normal traffic in this port in spite of its authentication state. Default is OFF.
Accounting Control	OFF: notify RADIUS server to stop accounting for this port. ON: notify RADIUS server to start accounting for this port. Default is OFF.
Accounting Interval	Type in the interval (300 ~ 600 sec) between accounting information updates. Default is 300 sec.
Port Control	Force-unAuth: cause the port to stay in the unauthorized state, ignoring all attempts by the client to authenticate. Force-Auth: disable 802.1X authentication and cause the port to transition to the authorized state without any authentication exchange required. Auto: enable 802.1x authentication and cause the port to begin the authentication process from unauthorized state.
Max Authentication Request	Type in the number of times our system will send authentication requests to Supplicant if no response from the Supplicant is received. Default value is 2.
ReAuthentication Control	OFF: disable re-authentication after a period of time ON: enable re-authentication after a period of time Default is OFF.
Max Request	Type in the number of times our system will send authentication
ReAuthentication	requests to the authentication server (RADIUS) if no response from the server is received. Default value is 2.

Timer Setting

System Protocol

System Authentication

Port Authentication

* Stands for default value
[1]All of the Timeout (0..60*.65535)Second
[2]Tx Period (1..30*.65535)Second
[3]Re-Auth Period (60..3600*.65535)Second
[4]Quiet Period(0..60*.65535)Second

Select Port	Supplicant Timeout	Server Timeout	Tx Period	ReAuthentication Period	Quiet Period
01 <input type="checkbox"/>	60	60	30	3600	60
02 <input type="checkbox"/>					
03 <input type="checkbox"/>					
04 <input type="checkbox"/>					
05 <input type="checkbox"/>					
06 <input type="checkbox"/>					
07 <input type="checkbox"/>					
08 <input type="checkbox"/>					
09 <input type="checkbox"/>					
10 <input type="checkbox"/>					
11 <input type="checkbox"/>					
12 <input type="checkbox"/>					

[[ADSL PVC CONFIGURATION](#)]

System Protocol Setup – Timer setting

Label	Description
Port Authentication section – Timer Setting	
<div style="display: flex; gap: 10px;"> Port 01~12 ▼ PVC-1 ▼ </div>	Select the line bridge port range to be listed.
Select Port	Remember to select the checkbox when you want to modify/delete the setting of a bridge port or set a bridge port to its default value.
Supplicant Timeout	Type in the number of seconds our system will wait for a response before resending the request to the supplicant. Default is 60 (sec).
Server Timeout	Type in the number of seconds our system will wait for a reply before resending the response to the authentication server. Default is 60 (sec).
Tx Period	Type in the number of seconds our system will wait for a response to an EAP-request/identity frame from the supplicant before resending the request. Default is 30 (sec).
ReAuthentication Period	Type in the number of seconds between re-authentication requests. Default is 3600 (sec).
Quiet Period	Type in the number of seconds that our system remains in the quiet state following a failed authentication exchange with the supplicant. Default is 60 (sec).

4.2.2 RADIUS & Local Profile

The IDL-2402 system supports RADIUS client function for authenticating line ports with local authentication database or remote RADIUS server. From the *802.1x Security* menu, click on *RADIUS & Local Profile*. The following page is displayed:

RADIUS & Local Profile

Authentication Method

AAA stands for Authentication, Authorization, and Accounting.

AAA Method1	AAA Method2	AAA Method3	AAA Method4
NONE	NONE	NONE	NONE

RADIUS Server

Select	RADIUS Server IP	Authentication Port(default 1812)	Accounting port(default 1813)	MAX Fail (1..10)	VLAN ID	Secret ID
Index#1 <input type="checkbox"/>	0 . 0 . 0 . 0	[]	[]	[]	[]	[]
Index#2 <input type="checkbox"/>	0 . 0 . 0 . 0	[]	[]	[]	[]	[]
Index#3 <input type="checkbox"/>	0 . 0 . 0 . 0	[]	[]	[]	[]	[]

Local Profile
 Select : Page 1, Profile 01~08

Select	Username	Password	Select	Username	Password
No.01 <input type="checkbox"/>	[]	[]	No.02 <input type="checkbox"/>	[]	[]
No.03 <input type="checkbox"/>	[]	[]	No.04 <input type="checkbox"/>	[]	[]
No.05 <input type="checkbox"/>	[]	[]	No.06 <input type="checkbox"/>	[]	[]
No.07 <input type="checkbox"/>	[]	[]	No.08 <input type="checkbox"/>	[]	[]

RADIUS & Local Profile Setup

Label	Description
Authentication Method section	
In this section, operators setup four AAA methods for the system to use, and the priority order is Method1 > Method2 > Method3 > Method4. If a user cannot be authenticated when the system uses Method1, the system will then try to use Method2, and so on. Click on the AAA method drop-down list and select a RADIUS server index or the local profile, which has been already configured in the RADIUS Server section or Local Profile section. At last click on Modify button.	
RADIUS Server section	
Select (Index#n)	Remember to select the checkbox when you want to modify or delete a RADIUS server entry.
RADIUS Server IP	Type in the IP address of the remote RADIUS server.
Authentication Port	Type in the port number for RADIUS Authentication in the Layer-4 header. Default is 1812.
Accounting Port	Type in the port number for RADIUS Accounting in the Layer-4 header. Default is 1813.

Max Fail	Type in the maximum allowable times of continuously failed authentication attempts.
VLAN ID	Type in the VID of the VLAN which the RADIUS server belongs to.
Secret ID	Type in the authentication key in text format.
Local Profile section	
<input type="text" value="Page 1, Profile 01~08"/>	<p>Click on the drop-down list and select the profile range to be listed.</p> <p>There are total 8 pages and 8 profiles per page (up to 64 local profiles can be set in our system).</p>
Username	Type in the username for authentication.
Password	Type in the password for authentication.

4.3 Bridge

4.3.1 Interface Setup

4.3.1.1 GIGA Bridge

This option allows you to setup the GBE (trunk) bridge interface. From the *Bridge* menu, click on *Interface Setup* and then *GIGA Bridge*. The following page is displayed:

GIGA Bridge

Select	Port	VID	MaxMac	VPri	VTag	Stack	Ingress	Acc.Frm	Isolation
<input checked="" type="radio"/>	UpLink#1	1	1024	0	Tagged	No Stack	On	ALL	ON

GIGA (Trunk) Bridge Setup

Label	Description
Mode	Click on the drop-down list and specify the trunk port to be an Uplink or User (especially for system stacking).
VID	Type in the default port VLAN ID. Valid value is 1 ~ 4094.
Max MAC	Type in the maximum number of MAC addresses that can be learned by the giga bridge port (1 ~ 4096).
VLAN	<p>VLAN setting for the traffic. Includes three drop-down lists:</p> <p>Pri-0 ~ 7: Set the default VLAN priority level.</p> <p>UnTagged/Tagged: Select to untag / tag the outgoing (upstream direction for trunk bridge ports) packets. If UnTagged is selected, a double-tagged packet will leave single-tagged (the outer most VLAN tag is removed) and a single-tagged packet will leave untagged.</p> <p>no Stack/Stack: Disable/Enable N:1 VLAN stacking (our system adds the default VLAN tag to all the incoming frames through this port).</p> <p><i>Note:</i> When an untagged frame enters the IDL-2402, it is assigned the default PVID of the ingress (incoming) bridge port and become a single-tagged frame no matter VLAN stacking is enabled or not.</p>
Ingress	<p>Set Ingress ON: check if the VID of the incoming frame is in the member set. If not in the member set, block the frame.</p> <p>Set Ingress OFF: Ingress filter disabled.</p>
Acc.Frm	Click on the drop-down list and select to accept ALL Frame, only VLAN tagged frame, or only Untagged frame.

Isol	ON/OFF: to enable/disable isolation. When port isolation is enabled, packets received from a trunk port (when both the trunk interfaces are configured as up-link) cannot be forwarded to the other trunk port even for broadcasting.
Modify	<p>To modify the configuration of a giga port:</p> <ol style="list-style-type: none"> 1. Click on the radio button to select trunk port 1 2. Change the parameter values 3. Click on Modify button to apply new values
Query	Click on this button to query current status.

4.3.1.2 ADSL PVC

This option allows you to setup the ADSL PVC. From the *Bridge* menu, click on *Interface Setup* and then *ADSL PVC*. The following page is displayed:

ADSL PVC Setup

VPI: VCI: Traffic:Rx Tx

Encap Protocol Base VLAN

ALL

Select	Port	VPI	VCI	Rx Traffic	Tx Traffic	ENCAP	Protocol Base VLAN
<input type="radio"/>	1	0	35	Default	Default	LLC	Disabled
<input type="radio"/>	2	0	35	Default	Default	LLC	Disabled
<input type="radio"/>	3	0	35	Default	Default	LLC	Disabled
<input type="radio"/>	4	0	35	Default	Default	LLC	Disabled
<input checked="" type="radio"/>	5						
<input type="radio"/>	6						
<input type="radio"/>	7						
<input type="radio"/>	8						
<input type="radio"/>	9	0	35	Default	Default	LLC	Disabled
<input type="radio"/>	10	0	35	Default	Default	LLC	Disabled
<input type="radio"/>	11	0	35	Default	Default	LLC	Disabled
<input type="radio"/>	12	0	35	Default	Default	LLC	Disabled

[\[ATM TRAFFIC PARAMETER \]](#)

You shall click on the drop-down lists to select port range and PVC first. Then the data of these PVCs (bridge ports) you selected will be displayed. Click on the radio button to select the PVC you want to create, modify, or delete.

ADSL PVC Setup

Label	Description
VPI	Type in the VPI value: 0 ~ 255. Default value is 0.
VCI	Type in the VCI value: 21, 32 ~ 65535. Default value is 35.
Traffic	Click on the drop-down list and select a traffic type for transmit and receive direction respectively. Available options are created in the ATM Traffic Descriptor page. See section 4.5.1

Encap	Select AAL5 Encapsulation Type: VCMUX, LLC, or AUTO (for PVC#1 ~ PVC#4 only)*.
Protocol Based VLAN	Select in the drop-down list to enable or disable protocol based VLAN function. When protocol based VLAN is enabled, the bridge port will work according to the protocol based VLAN table (refer to section 4.3.2).
All	Select the check box to copy specified circuit to all remainder circuits in current page.
Create	Click on the radio button to select a PVC (bridge port) that has not been created. Set the parameter values and then click on Create to create a PVC.
Modify	Click on the radio button to select the PVC (bridge port) you want to modify. Change the parameter values and then click on Modify .
Delete	Click on the radio button to select the PVC (bridge port) you want to delete. Then click on Delete to remove the PVC.
Query	Click on this button to get the most recent data.

*The IDL-2402 supports auto-detection of the ATM AAL5 encapsulation method, LLC or VC-Mux. Meanwhile, the IDL-2402 is also able to automatically sense the following protocol encapsulations: PPPoE over ATM (per RFC 2684), IPoE over ATM bridge mode, and PPP over ATM. IPoA works on individual PVC.

However, there are limitations on auto-detection of encapsulations:

1. LLC/VC-Mux automatic detection is only applicable to PVC#1 ~ PVC#4 of each ADSL port. PVC#5 ~ PVC#8 must be assigned the ATM AAL5 encapsulation method manually.
2. PPPoA works only for PVC#1 ~ PVC#4 and the LLC/VC-Mux automatic detection must be enabled.

Refer to section 4.3.7 for IPoA configuration.

4.3.1.3 ADSL Bridge

This option allows you to setup the ADSL bridge interface. From the *Bridge* menu, click on *Interface Setup* and then *ADSL Bridge*. The following page is displayed:

ADSL Bridge

VID:
 VLAN:
 Pri:
 no Stack:

Ingress:
 Acc.Frm:
 Isolation:
 Priority Force:

ALL

Select	Port	VID	VLAN	Ingress	Acc.Frm	Isolation	Priority Force
<input checked="" type="radio"/>	1	1	UnTagged / pri-0 / No Stack	ON	ALL	ON	Disbale
<input type="radio"/>	2	1	UnTagged / pri-0 / No Stack	ON	ALL	ON	Disbale
<input type="radio"/>	3	1	UnTagged / pri-0 / No Stack	ON	ALL	ON	Disbale
<input type="radio"/>	4	1	UnTagged / pri-0 / No Stack	ON	ALL	ON	Disbale
<input type="radio"/>	5	1	UnTagged / pri-0 / No Stack	ON	ALL	ON	Disbale
<input type="radio"/>	6						
<input type="radio"/>	7	1	UnTagged / pri-0 / No Stack	ON	ALL	ON	Disbale
<input type="radio"/>	8	1	UnTagged / pri-0 / No Stack	ON	ALL	ON	Disbale
<input type="radio"/>	9	1	UnTagged / pri-0 / No Stack	ON	ALL	ON	Disbale
<input type="radio"/>	10	1	UnTagged / pri-0 / No Stack	ON	ALL	ON	Disbale
<input type="radio"/>	11	1	UnTagged / pri-0 / No Stack	ON	ALL	ON	Disbale
<input type="radio"/>	12						

[[ADSL PVC CONFIGURATION](#) | [STATIC VLAN](#)]

You shall click on the drop-down lists to select port range and PVC first. Then the data of these PVCs (bridge ports) you selected will be displayed. Click on the radio button to select the bridge port you want to modify.

ADSL Bridge Setup

Label	Description
VID	Type in the default port VLAN ID. Valid value is 1 ~ 4094.
VLAN	VLAN setting for the egress traffic. Includes three drop-down lists: UnTagged/Tagged: select untagging/tagging the outgoing frames (downstream direction for line bridge port). If UnTagged is selected, a double-tagged packet will leave single-tagged (the outer most VLAN tag is

	<p>removed) and a single-tagged packet will leave untagged.</p> <p>Pri-0 ~ 7: set the default VLAN priority level.</p> <p>no Stack/Stack/TLS: disable N:1 VLAN stacking / enable N:1 VLAN stacking (our system adds the default VLAN tag to all the incoming frames through this port) / enable TLS (transparent LAN service) so that this bridge port becomes VLAN transparent (refer to DSL Forum, TR-101). A pre-configured S-Tag is used to encapsulate TLS traffic going through this port. That is, an S-Tag (PVID here) will be added to all the upstream frames received on this port, and the C-Tags will be the original tags of these frames (no C-Tag for untagged incoming frames). On the other hand, the S-tag will be removed from all the downstream (outgoing) frames.</p> <p><i>Note:</i> When an untagged frame enters the IDL-2402, it is assigned the default PVID of the ingress (incoming) bridge port and become a single-tagged frame no matter VLAN stacking is enabled or not.</p>
Ingress	<p>Set Ingress ON: check if the VID of the incoming frame is in the member set. If not in the member set, block the frame.</p> <p>Set Ingress OFF: Ingress filter disabled.</p>
AccFrm	Click on the drop-down list and select to accept ALL Frame, only VLAN tagged frame, or only Untagged frame.
Isolation	ON/OFF: to enable/disable isolation. When port isolation is enabled, packets received from a line bridge port (including trunk interface configured as user-link) cannot be forwarded to any other line bridge port even for broadcasting.
Priority Force	<p>Click on the drop-down list and select the priority-forcing mode. Options are:</p> <p>Disabled: Reserve the original priority of all packets.</p> <p>Ingress: Force applying the default VLAN priority value to all the packets received on this bridge port (so this rule will work on all the member-set of this bridge port).</p> <p>Egress: Force the priority value of all packets sent out from this bridge port's default VLAN to be the default VLAN priority (so this rule only works on default VLAN of this bridge port).</p> <p>Both: Combine the rules of Ingress and Egress.</p>
All	Select the check box to copy specified circuit to all remainder circuits in current page.
Modify	Click on the radio button to select the bridge port you want to modify. Change the parameter values and then click on Modify .
Query	Click on this button to get the most recent data.

4.3.1.4 ADSL Port Security

This option allows you to setup the ADSL port security. From the *Bridge* menu, click on *Interface Setup* and then *ADSL Port Security*. The following page is displayed:

ADSL Port Security

Select	Port	Max MAC	MAC Learning	IP Allowed
<input checked="" type="radio"/>	1	4	Enabled	Disabled
<input type="radio"/>	2	4	Enabled	Disabled
<input type="radio"/>	3	4	Enabled	Disabled
<input type="radio"/>	4	4	Enabled	Disabled
<input type="radio"/>	5	8	Enabled	Disabled
<input type="radio"/>	6			
<input type="radio"/>	7	8	Enabled	Disabled
<input type="radio"/>	8	8	Enabled	Disabled
<input type="radio"/>	9	4	Enabled	Disabled
<input type="radio"/>	10	4	Enabled	Disabled
<input type="radio"/>	11	4	Enabled	Disabled
<input type="radio"/>	12			

You shall click on the drop-down lists to select port range and PVC first. Then the data of these PVCs (bridge ports) you selected will be displayed. Click on the radio button to select the bridge port you want to modify.

ADSL Port Security Setup

Label	Description
Max MAC	Type in the maximum number of MAC addresses that can be learned by the ADSL bridge port (1 ~ 128).
MAC Learning	Select to enable/disable MAC learning ability. Sometimes you can disable MAC learning on specified bridge port. This function is for 1:1 VLAN translation scenario.
IP Allowed	Select to enable/disable IP Allowed function. When you enable IP Allowed function on a bridge port, this bridge port will work according to the Static Allowed IP table (refer to section 4.3.2).

	So you need to define the source IP addresses that bind to this bridge port. Then the IP packets that contain these source IP addresses can pass through this bridge port; otherwise the packets will be blocked.
All	Select the check box to copy specified circuit to all remainder circuits in current page.
Modify	Click on the radio button to select the bridge port you want to modify. Change the parameter values and then click on Modify .
Query	Click on this button to get the most recent data.

4.3.2 VLAN Configuration

4.3.2.1 Static VLAN

This option allows you to configure the static VLAN table. From the *Bridge* menu, click on *VLAN Configuration* and then *Static VLAN*. The following page is displayed. Click on the radio button to select *CONFIG VLAN* to configure static VLAN for the bridge ports or *SHOW VLAN* to display the VLAN table.

CONFIG VLAN

Click on the drop-down list to select ADSL or GIGA port, and then select a port and PVC if ADSL is selected. Once you have selected the bridge interface, its current static VLAN setting is displayed. To add a new VLAN member, type in VID for the **New VID** field and then select Tagged/UnTagged for **VLAN Tag**, ON/OFF for **Isolation**, and VLAN priority level (specify a number or reserve the original value) for **Priority**. At last click on **Create==>** button. To modify or delete a VLAN, select the checkboxes of the entries you want to modify or delete and then click on **Modify** or **Delete** button.

Static VLAN

CONFIG VLAN SHOW VLAN

ADSL	Port-1	PVC-1			
Port	Default VID	VLAN ID List			
ADSL Port1-PVC1	1	5,8			
<input type="checkbox"/> <input type="checkbox"/>	Added VID	Vlan Tag	Isolation	Priority	
	5	Tagged	ON	Reserved	
	8	Tagged	OFF	Reserved	
New VID		Vlan Tag	Isolation	Priority	
<input type="button" value="Create=>"/>	[--]	Tagged	ON	Reserved	
[GIGA BRIDGE ADSL BRIDGE]					

SHOW VLAN

In the following page, type in the VID and then click on Query. All the bridge ports belonging to the VLAN and the configuration data of these ports will be displayed in the table.

Static VLAN

CONFIG VLAN SHOW VLAN

No.	Default VID	VLAN Tag	VLAN Priority	Isolated	Egress Port
1	True	UnTagged	Reserved	Enabled	GIGA UPLINK:1
2	True	UnTagged	Reserved	Enabled	ADSL Port-PVC:1-1
3	True	UnTagged	Reserved	Enabled	ADSL Port-PVC:2-1
4	True	UnTagged	Reserved	Enabled	ADSL Port-PVC:3-1
5	True	UnTagged	Reserved	Enabled	ADSL Port-PVC:4-1
6	True	UnTagged	Reserved	Enabled	ADSL Port-PVC:5-1
7	True	UnTagged	Reserved	Enabled	ADSL Port-PVC:7-1
8	True	UnTagged	Reserved	Enabled	ADSL Port-PVC:8-1
9	True	UnTagged	Reserved	Enabled	ADSL Port-PVC:9-1
10	True	UnTagged	Reserved	Enabled	ADSL Port-PVC:10-1
11	True	UnTagged	Reserved	Enabled	ADSL Port-PVC:11-1
12	True	UnTagged	Reserved	Enabled	ADSL Port-PVC:12-1
13	True	UnTagged	Reserved	Enabled	ADSL Port-PVC:6-5

[[GIGA BRIDGE](#) | [ADSL BRIDGE](#)]

4.3.2.2 Protocol Base VLAN

This option allows you to configure the protocol based VLAN table. From the *Bridge* menu, click on *VLAN Configuration* and then *Protocol Base VLAN*. The following page is displayed. Select the checkboxes of the entries you want to create or delete. To create a new entry, type in the VLAN ID and select the EtherType (protocol). If you select **Other** for EtherType, type the EtherType value in the rightmost field.

Protocol Base VLAN

(1)Page1 of 4 ▾

Create Delete Query

Select	NO	VLAN ID (1..4094)	EtherType	
<input type="checkbox"/>	1	1	PPPoE Discovery Stage ▾	--
<input type="checkbox"/>	2	2	PPPoE Session Stage ▾	--
<input checked="" type="checkbox"/>	3	3	Other ▾	0x 8035
<input type="checkbox"/>	4		Select ▾	0x
<input type="checkbox"/>	5		Select ▾	0x
<input type="checkbox"/>	6		Select ▾	0x
<input type="checkbox"/>	7		Select ▾	0x
<input type="checkbox"/>	8		Select ▾	0x

[[STATIC VLAN](#)]

4.3.2.3 Translation VLAN

This option allows you to configure the translation VLAN table, which defines some special VLAN working rules such as VLAN stack, VLAN cross-connect, etc. Before you configure the Translation VLAN table for a line bridge port, you shall configure the Static VLAN table for this line bridge port and the GIGA bridge port in advance. Also, you shall disable VLAN stacking feature of this line bridge port in the ADSL bridge interface setup page (refer to section 4.3.1), otherwise the VLAN translation rule here will not take effect. From the *Bridge* menu, click on *VLAN Configuration* and then *Translation VLAN*. The following page is displayed. Click on the radio button to select translation Mode first.

Translation VLAN

1:1 User Mode
 N:1 User Mode
 C_VLAN Stacking Replaced Mode

sTag ether type: 0x 8100

ADSL Port-1 PVC-1

Port	Default VID	VLAN ID List			
ADSL Port1-PVC1	1	1,5,8			
<input type="button" value="Delete"/>	ADSL VID	UPLINK Port	UPLINK VID	UPLINK Priority	VLAN MODE
<input type="checkbox"/>	1	GIGA1	1	0	RESERVED
<input type="checkbox"/>	5	GIGA1	1	1	STACKING
ADSL VID	G1 UPLINK VID	UPLINK Priority	VLAN MODE		
<input type="button" value="Create==>"/>	1*	<input type="button" value="Select"/>	<input type="button" value="Select"/>	<input type="button" value="Select"/>	

[GIGA BRIDGE | ADSL BRIDGE | STATIC VLAN]

Actually the IDL-2402 provides five translation modes: four for 1:1 VLAN, one for N: 1 VLAN (refer to *DSL Forum TR-101*).

1:1 VLAN (including 1:1 User Mode and C_VLAN Stacking Replaced Mode):

If the ADSL user bridge port only has 1:1 VLAN, then MAC learning function of this bridge port can be disabled.

1. Reserved

In this mode, the system does not make any change on C-Tag. That is the uplink port's S-Tag is actually the C-Tag. The system provides a tunnel for the user port and uplink port. And one VLAN ID can only make one tunnel.

2. Replaced

In this mode, the system will change the user port's C-Tag to the Uplink port's S-Tag. And the mapping is one to one, that is, one user port's C-Tag (one VID) can only translate to one uplink port's S-Tag (one VID), and vice versa. For example, for ADSL Port1-PVC1, if ADSL VID 5 translates to GIGA1 VID 1, then you cannot make ADSL VID 5 translate to another GIGA VID. You also cannot make another ADSL VID translate to GIGA VID1.

Upstream:

C-Tag→(User port)-----(Uplink port)→S-Tag

Downstream:

S-Tag→(Uplink port)----- (User port)→C-Tag

3. Stacking

In this mode, the system will add S-TAG before user port's C-TAG. Note that the mapping from C-Tag to S-Tag+C-Tag is still one to one. So a user port's C-Tag can't be used for another translation rule, as well as an uplink port's S-Tag+C-Tag.

Upstream:

C-Tag→(User port)----- (Uplink port)→S-Tag+C-Tag

Downstream:

S-Tag+C-Tag→(Uplink port)----- (User port)→C-Tag

4. Stacking and Replaced

In this mode, the system will replace the user port's C-Tag to C'-Tag and add S-Tag before C'-Tag. Note that the mapping from C-Tag to S-Tag+C'-Tag is still one to one. So a user port's C-Tag can't be used for another translation rule, as well as an uplink port's S-Tag+C'-Tag.

Upstream:

C-Tag→(User port)----- (Uplink port)→S-Tag+C'-Tag

Downstream:

S-Tag+C'-Tag→(Uplink port)----- (User port)→C-Tag

Translation VLAN

1:1 User Mode N:1 User Mode C_VLAN Stacking Replaced Mode

sTag ether type: 0x 8100

ADSL Port-1 PVC-1

Port	Default VID	VLAN ID List					
ADSL Port1-PVC1	1	1,5,6					
<input type="button" value="Delete"/>	ADSL VID	UPLINK Port	UPLINK VID	New CVLAN ID	New CVLAN Priority	UPLINK Priority	VLAN MODE
<input type="button" value="Create==>"/>	ADSL VID	G1 UPLINK VID		New CVLAN ID	New CVLAN Priority	UPLINK Priority	VLAN MODE
	1*	Select	[]	Select	Select	Select	CTAG

[GIGA BRIDGE | ADSL BRIDGE | STATIC VLAN]

N:1 VLAN (N:1 User Mode):

N:1 can also be called shared VLAN, so in this mode MAC learning function of the bridge ports must not be disabled.

1. Replaced N:1

In this mode, the system will change the user port's C-Tag to the Uplink port's S-Tag. And the mapping is N to 1, so a user port's C-Tag can't be used for another VLAN translation rule. But an uplink port's S-Tag can be used for another N:1 VLAN translation rule.

So in this mode several bridge ports can have the same VLAN cross-connect rule.

Translation VLAN

1:1 User Mode N:1 User Mode C_VLAN Stacking Replaced Mode

sTag ether type: 0x 8100

ADSL PVC-1


Port	Default VID	VLAN ID List			
ADSL Port1-PVC1	1	1,5,6			
<input type="button" value="Delete"/>	ADSL VID	UPLINK Port	UPLINK VID	UPLINK Priority	VLAN MODE
ADSL VID	G1 UPLINK VID	UPLINK Priority	VLAN MODE		
<input type="button" value="Create==>"/>	1*	<input type="button" value="Select"/>	<input type="button" value="Select"/>	<input type="button" value="REPLACED N:1"/>	

[[GIGA BRIDGE](#) | [ADSL BRIDGE](#) | [STATIC VLAN](#)]

4.3.2.4 Static Allowed IP

This option allows you to configure the Static Allowed IP table. From the *Bridge* menu, click on *VLAN Configuration* and then *Static Allowed IP*. The following page is displayed. To make bridge port work according to this Static Allowed IP table, the IP allowed function must be enabled (refer to section 4.3.1).

[Static Allowed IP](#)

CONFIG ALLOWED IP 

Delete Select	No	Port	VLAN ID	Allowed Source IP
<input type="checkbox"/>	1	ADSL Port1-PVC1	1	172.2.0.1
<input type="checkbox"/>	2	ADSL Port8-PVC1	8	172.2.0.1

ADSL Port-1 PVC-1

VLAN ID:

Allowed IP: . . .

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Click on the drop-down lists to select ADSL port and PVC number, then type in VID and allowed source IP that can pass through the VLAN.

4.3.2.5 MAC Spoofing

This option allows you to enable/disable anti-MAC Spoofing function and MAC-Spoofing detection log function. From the *Bridge* menu, click on *VLAN Configuration* and then *MAC Spoofing*. The following page is displayed.

MAC Spoofing

Spoofing <input type="button" value="ON"/> <input type="button" value="Log"/> <input type="button" value="OFF"/> <input type="button" value="Set"/> <input type="button" value="Query"/>			
No	Port	VLAN ID	MAC
[GIGA BRIDGE ADSL BRIDGE]			

MAC Spoofing Setup

Label	Description
Spoofing	Click on the drop-down list to select: OFF: The system is able to provide service to users with duplicate MAC addresses. ON: The system is able to deny service to users with duplicate
Log	Click on the drop-down list to select: OFF: No log of MAC spoofing data when detected. ON: The system provides log when duplicated MAC addresses detected.
Set	Click on this button to apply the setting.
Query	Click on this button to get the MAC spoofing information (the Log function must be enabled).

4.3.3 Access Control

4.3.3.1 Filtering

This option allows you to setup the filter rule for the packets. From the *Bridge* menu, click on *Access Control* and then *Filtering*. The following page is displayed. Click on *Filtering Type* drop-down list to select a filtering type first.

Filtering

Filtering Type

Filtering Table

(0) Protocol
(1) Source MAC
(2) Source IP Address
(3) Layer 4 Destination Port
(4) Destination IP
(5) Destination MAC
(6) Ether Type

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Protocol Filtering

Protocol Filtering

Filtering Type No. From To

No range from 1 to 256

No.	Port	Passable Protocol
1	ADSL Port1-PVC1	ICMP

ADSL PVC-1

Next No: Protocol

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Protocol Filtering Setup

Label	Description
Filtering Type	You can also select the filtering type here.
No. From...To...	Type in the range of serial number in the filter rule table. Valid number value: 1 ~ 256.
Query	Once you have specified the serial number, click on this button to display the filter rules.

Delete	Once you have specified the serial number, click on this button to delete the filter rules in the table.
<input type="text" value="ADSL"/> <input type="text" value="Port-1"/> <input type="text" value="PVC-1"/>	Click on these drop-down lists to select an ADSL bridge port or GIGA bridge port.
Protocol	Click on this drop-down list and select a protocol to deny: ICMP, IGMP, IP in IP, TCP, GRP, IGP, UDP, GRE, EIGRP, or OSPF.
Create	Click on this button to create a new filter rule in the table.

Source MAC Filtering

Source MAC Filtering

Filtering Type: No. From To

No range from 1 to 256

No.	Port	Source MAC
1	GIGA1	00:30:4f:aa:01:c0

Next No:

Source MAC

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Source MAC Filtering Setup

Label	Description
Filtering Type	You can also select the filtering type here.
No. From...To...	Type in the range of serial number in the filter rule table. Valid number value: 1 ~ 256.
Query	Once you have specified the serial number, click on this button to display the filter rules.
Delete	Once you have specified the serial number, click on this button to delete the filter rules in the table.
<input type="text" value="ADSL"/> <input type="text" value="Port-1"/> <input type="text" value="PVC-1"/>	Click on these drop-down lists to select an ADSL bridge port or GIGA bridge port.
Source MAC	Type in the MAC Address of the source.
Create	Click on this button to create a new filter rule in the table.

IP Address Filtering

Source IP Address Filtering

Filtering Type <input type="text" value="Source IP"/> No. From <input type="text" value="1"/> To <input type="text" value="2"/>			
No range from 1 to 256			
<input type="button" value="Query"/> <input type="button" value="Delete"/>			
No.	Port	Source IP	Subnet Mask
1	GIGA1	172.16.100.77	255.255.255.0
2	ADSL Port1-PVC1	172.16.100.66	255.255.0.0
<input type="text" value="ADSL"/> <input type="text" value="Port-1"/> <input type="text" value="PVC-1"/>			
Next No: <input type="text" value="3"/>			
Source IP <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> MASK <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/>			
<input type="button" value="Create"/>			
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Source IP Address Filtering Setup

Label	Description
Filtering Type	You can also select the filtering type here.
No. From...To...	Type in the range of serial number in the filter rule table. Valid number value: 1 ~ 256.
Query	Once you have specified the serial number, click on this button to display the filter rules.
Delete	Once you have specified the serial number, click on this button to delete the filter rules in the table.
<input type="text" value="ADSL"/> <input type="text" value="Port-1"/> <input type="text" value="PVC-1"/>	Click on these drop-down lists to select an ADSL bridge port or GIGA bridge port.
Source IP	Type in the IP Address of the source.
MASK	Type in the subnet mask.
Create	Click on this button to create a new filter rule in the table.

Layer 4 Destination Port Filtering

Layer 4 Destination Port Filtering

Filtering Type	L4 Dest Port	No. From	1	To	1
No range from 1 to 256					
Query		Delete			
No.	Port	L4 Destination PORT			
1	ADSL Port1-PVC1	65535			
ADSL	Port-1	PVC-1			
Next No:	2	Destination Port	65535	Create	
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Layer 4 Destination Port Filtering Setup

Label	Description
Filtering Type	You can also select the filtering type here.
No. From...To...	Type in the range of serial number in the filter rule table. Valid number value: 1 ~ 256.
Query	Once you have specified the serial number, click on this button to display the filter rules.
Delete	Once you have specified the serial number, click on this button to delete the filter rules in the table.
ADSL Port-1 PVC-1	Click on these drop-down lists to select an ADSL bridge port or GIGA bridge port.
Destination Port	Type in the Destination Port number (1 ~ 65535).
Create	Click on this button to create a new filter rule in the table.

Destination IP Filtering

Destination IP Filtering

Filtering Type: <input type="text" value="Destination IP"/> No. From: <input type="text" value="1"/> To: <input type="text" value="1"/>			
No range from 1 to 256			
<input type="button" value="Query"/>		<input type="button" value="Delete"/>	
No.	Port	Destination IP	Subnet Mask
1	ADSL Port2-PVC1	172.16.100.25	255.255.0.0
<input type="text" value="ADSL"/> <input type="text" value="Port-1"/> <input type="text" value="PVC-1"/>			
Next No: <input type="text" value="2"/>			
Destination IP		MASK	
<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
<input type="button" value="Create"/>			
[GIGA BRIDGE ADSL BRIDGE STATIC VLAN]			

Destination IP Filtering Setup

Label	Description
Filtering Type	You can also select the filtering type here.
No. From...To...	Type in the range of serial number in the filter rule table. Valid number value: 1 ~ 256.
Query	Once you have specified the serial number, click on this button to display the filter rules.
Delete	Once you have specified the serial number, click on this button to delete the filter rules in the table.
<input type="text" value="ADSL"/> <input type="text" value="Port-1"/> <input type="text" value="PVC-1"/>	Click on these drop-down lists to select an ADSL bridge port or GIGA bridge port.
Destination IP	Type in the Destination IP address.
MASK	Type in the subnet mask.
Create	Click on this button to create a new filter rule in the table.

Destination MAC Filtering

Destination MAC Filtering

Filtering Type No. From To

No range from 1 to 256

No.	Port	Destination MAC
1	ADSL Port1-PVC1	11:22:33:44:55:66

Next No:

Destination MAC

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Destination MAC Filtering Setup

Label	Description
Filtering Type	You can also select the filtering type here.
No. From...To...	Type in the range of serial number in the filter rule table. Valid number value: 1 ~ 256.
Query	Once you have specified the serial number, click on this button to display the filter rules.
Delete	Once you have specified the serial number, click on this button to delete the filter rules in the table.
<input type="text" value="ADSL"/> <input type="text" value="Port-1"/> <input type="text" value="PVC-1"/>	Click on these drop-down lists to select an ADSL bridge port or GIGA bridge port.
Destination MAC	Type in the Destination MAC address.
Create	Click on this button to create a new filter rule in the table.

Ether Type Filtering

Ether Type Filtering

Filtering Type	<input type="text" value="Ether Type"/>	No. From	<input type="text" value="1"/>	To	<input type="text" value="5"/>
No range from 1 to 256					
<input type="button" value="Query"/>		<input type="button" value="Delete"/>			
No.	Port	Ether Type			
1	ADSL Port1-PVC1	0x8100			
2	ADSL Port2-PVC1	0x8035			
<input type="text" value="ADSL"/>		<input type="text" value="Port-1"/>	<input type="text" value="PVC-1"/>		
Next No:	<input type="text" value="3"/>	Incoming EtherType	<input type="text" value="0x"/>	<input type="button" value="Create"/>	
[GIGA BRIDGE ADSL BRIDGE STATIC VLAN]					

Ether Type Filtering Setup

Label	Description
Filtering Type	You can also select the filtering type here.
No. From...To...	Type in the range of serial number in the filter rule table. Valid number value: 1 ~ 256.
Query	Once you have specified the serial number, click on this button to display the filter rules.
Delete	Once you have specified the serial number, click on this button to delete the filter rules in the table.
<input type="text" value="ADSL"/> <input type="text" value="Port-1"/> <input type="text" value="PVC-1"/>	Click on these drop-down lists to select an ADSL bridge port or GIGA bridge port.
Incoming Ether Type	Type in the EtherType value (hexadecimal).
Create	Click on this button to create a new filter rule in the table.

4.3.3.2 VLAN Priority Remark

This option allows you to configure the VLAN priority. From the *Bridge* menu, click on *Access Control* and then *VLAN Priority Remark*. The following page is displayed:

VLAN Priority Remark

VPRI Remark [Select]

VLAN Priority Remark Table

(1) Type of Service(TOS) Remark
(2) IP Source Remark
(3) IP Destination Remark
(4) MAC Source Remark
(5) MAC Destination Remark
(6) VLAN ID Remark
(7) VLAN Priority Regen(Re-Generation)
(8) Differentiated Services (DSCP)
(9) Protocol Remark
(10) Ether Type Remark

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Click on the *VPRI Remark* drop-down list and select a type of VLAN Priority Remark. Available options include Type of Service (TOS), IP Source, IP Destination, MAC Source, MAC Destination, VLAN ID, VLAN Priority Regeneration, Differentiated Services (DSCP), Protocol, and Ether Type.

TOS

VLAN TOS Priority Remark

VPRI Remark (1)TOS <input type="text"/> No. From <input type="text" value="1"/> To <input type="text" value="1"/>			
No range from 1 to 256			
<input type="button" value="Query"/> <input type="button" value="Delete"/>			
No.	Port	Incoming TOS	Outgoing Vlan Priority
1	ADSL Port1-PVC1	1	3
<input type="text" value="ADSL"/> <input type="text" value="Port-1"/> <input type="text" value="PVC-1"/>			
Next No: <input type="text" value="2"/>			
TOS <input type="text" value="0"/>			
Priority(Out) <input type="text" value="0"/> <input type="button" value="Create"/>			
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VLAN Priority Remark Setup - TOS

Label	Description
VPRI Remark	You can also select the priority remark type here.
No. From ...To...	Type in the range of entry number in the table you want to view (value range is 1~256).
Query	To query entries, type in the entry number range and then click on this button to retrieve.
Delete	To delete entries, type in the entry number range and then click on this button to delete.
<input type="text" value="ADSL"/> <input type="text" value="Port-1"/> <input type="text" value="PVC-1"/>	Click on these drop-down list to select an ADSL bridge port or GIGA bridge port.
TOS	<p>In order to provide basic support for classes of service to the Internet Protocol. The IP protocol header contains what is known as the ToS (Type of Service) bits.</p> <p>Click on the drop-down list and select incoming TOS (value range 0 ~ 7), then you can create the mapping between TOS and VLAN priority.</p>
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new entry in the table.

IP Source

VLAN IP Source Priority Remark

VPRI Remark (2) IP Source <input type="text"/> No. From <input type="text" value="1"/> To <input type="text" value="1"/>				
No range from 1 to 256				
<input type="button" value="Query"/> <input type="button" value="Delete"/>				
No.	Port	IP Source ADDRESS	Subnet Mask	Outgoing Vlan Priority
1	ADSL Port1-PVC1	172.113.006.000	255.255.000.000	2
<input type="button" value="ADSL"/> <input type="button" value="Port-1"/> <input type="button" value="PVC-1"/>				
Next No: <input type="text" value="2"/>				
Source IP <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> MASK <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/>				
Priority(Out) <input type="text" value="0"/> <input type="button" value="Create"/>				
[GIGA BRIDGE ADSL BRIDGE STATIC VLAN]				

VLAN Priority Remark Setup – IP Source

Label	Description
VPRI Remark	You can also select the priority remark type here.
No. From ...To...	Type in the range of entry number in the table you want to view (value range is 1~256).
Query	To query entries, type in the entry number range and then click on this button to retrieve.
Delete	To delete entries, type in the entry number range and then click on this button to delete.
<input type="button" value="ADSL"/> <input type="button" value="Port-1"/> <input type="button" value="PVC-1"/>	Click on these drop-down list to select an ADSL bridge port or GIGA bridge port.
Source IP	Type in the IP address of the coming source.
MASK	Type in the subnet mask.
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new entry in the table.

IP Destination

VLAN IP Destination Priority Remark

VPRI Remark: (3)IP Destination <input type="button" value="No. From"/> 1 <input type="button" value="To"/> 1 No range from 1 to 256 <input type="button" value="Query"/> <input type="button" value="Delete"/>				
No.	Port	IP Destination ADDRESS	Subnet Mask	Outgoing Vlan Priority
1	GIGA1	172.023.002.002	255.255.000.000	7
<input type="button" value="GIGA"/> <input type="button" value="GIGA1"/>				
Next No: 2 Destination IP: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> MASK: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Priority(Out): <input type="button" value="0"/> <input type="button" value="Create"/>				
[GIGA BRIDGE XDSL BRIDGE STATIC VLAN]				

VLAN Priority Remark Setup – IP Destination

Label	Description
VPRI Remark	You can also select the priority remark type here.
No. From ...To...	Type in the range of entry number in the table you want to view (value range is 1~256).
Query	To query entries, type in the entry number range and then click on this button to retrieve.
Delete	To delete entries, type in the entry number range and then click on this button to delete.
<input type="button" value="GIGA"/> <input type="button" value="GIGA1"/>	Click on these drop-down list to select an ADSL bridge port or GIGA bridge port.
Source IP	Type in the IP address of the coming source.
MASK	Type in the subnet mask.
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new entry in the table.

MAC Source

VLAN MAC Source Priority Remark

VPRI Remark: (4)MAC Source No. From: 1 To: 1 No range from 1 to 256 <input type="button" value="Query"/> <input type="button" value="Delete"/>			
No.	Port	MAC Source ADDRESS	Outgoing Vlan Priority
1	GIGA1	00:30:4f:aa:01:c0	1
<input type="button" value="GIGA"/> <input type="button" value="GIGA1"/>			
Next No: 2 Source MAC: <input type="text" value="00"/> <input type="text" value="00"/> <input type="text" value="00"/> <input type="text" value="00"/> <input type="text" value="00"/> <input type="text" value="00"/>			
Priority(Out): <input type="text" value="0"/> <input type="button" value="Create"/>			
[GIGA BRIDGE XDSL BRIDGE STATIC VLAN]			

VLAN Priority Remark Setup – MAC Source

Label	Description
VPRI Remark	You can also select the priority remark type here.
No. From ...To...	Type in the range of entry number in the table you want to view (value range is 1~256).
Query	To query entries, type in the entry number range and then click on this button to retrieve.
Delete	To delete entries, type in the entry number range and then click on this button to delete.
<input type="button" value="GIGA"/> <input type="button" value="GIGA1"/>	Click on these drop-down list to select an ADSL bridge port or GIGA bridge port.
Source MAC	Type in the MAC Address of the coming source.
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new entry in the table.

MAC Destination

VLAN MAC Destination Priority Remark

VPRI Remark: (5)MAC Destination <input type="button" value="Query"/> <input type="button" value="Delete"/>			
No. From: 1 To: 1 No range from 1 to 256			
No.	Port	MAC Destination ADDRESS	Outgoing Vlan Priority
1	GIGA1	00:30:4f:aa:01:c0	7
<input type="button" value="GIGA"/> <input type="button" value="GIGA1"/>			
Next No: 2 Destination MAC: <input type="text" value="00"/> <input type="text" value="00"/> <input type="text" value="00"/> <input type="text" value="00"/> <input type="text" value="00"/> <input type="text" value="00"/>			
Priority(Out): <input type="button" value="0"/> <input type="button" value="Create"/>			
GIGA BRIDGE XDSL BRIDGE STATIC VLAN			

VLAN Priority Remark Setup – MAC Destination

Label	Description
VPRI Remark	You can also select the priority remark type here.
No. From ...To...	Type in the range of entry number in the table you want to view (value range is 1~256).
Query	To query entries, type in the entry number range and then click on this button to retrieve.
Delete	To delete entries, type in the entry number range and then click on this button to delete.
<input type="button" value="GIGA"/> <input type="button" value="GIGA1"/>	Click on these drop-down list to select an ADSL bridge port or GIGA bridge port.
Destination MAC	Type in the MAC Address of the destination.
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new entry in the table.

VLAN ID

VLAN ID Priority Remark

VPRI Remark: (6))VLAN ID <input type="button" value="▼"/> No. From <input type="text" value="1"/> To <input type="text" value="2"/> No range from 1 to 256 <input type="button" value="Query"/> <input type="button" value="Delete"/>			
No.	Port	VLAN ID	Outgoing Vlan Priority
1	GIGA1	1	2
2	GIGA1	5	0
<input type="button" value="GIGA"/> <input type="button" value="GIGA1"/>			
Next No: <input type="text" value="3"/> VLAN ID: <input type="text" value="1"/> Priority(Out): <input type="button" value="0"/> <input type="button" value="Create"/>			
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VLAN Priority Remark Setup – VLAN ID

Label	Description
VPRI Remark	You can also select the priority remark type here.
No. From ...To...	Type in the range of entry number in the table you want to view (value range is 1~256).
Query	To query entries, type in the entry number range and then click on this button to retrieve.
Delete	To delete entries, type in the entry number range and then click on this button to delete.
<input type="button" value="GIGA"/> <input type="button" value="GIGA1"/>	Click on these drop-down list to select an ADSL bridge port or GIGA bridge port.
VLAN ID	Type in the VLAN ID (1 ~ 4094).
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new entry in the table.

VLAN Priority Regeneration

VLAN Priority Re-Generation

VPRI Remark (7)VLAN Priority Regen No. From 1 To 2
 No range from 1 to 1024
 Query Delete

No.	Port	Incoming Vlan Priority	Outgoing Vlan Priority
1	GIGA1	0	3
2	GIGA1	2	5

GIGA GIGA1

Next No: 3
 Priority(In) 0
 Priority(Out) 0 Create

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VLAN Priority Remark Setup – VLAN Priority Regeneration

Label	Description
VPRI Remark	You can also select the priority remark type here.
No. From ...To...	Type in the range of entry number in the table you want to view (value range is 1~256).
Query	To query entries, type in the entry number range and then click on this button to retrieve.
Delete	To delete entries, type in the entry number range and then click on this button to delete.
GIGA GIGA1	Click on these drop-down list to select an ADSL bridge port or GIGA bridge port.
Priority (In)	Click on the drop-down list and select the incoming VLAN Priority (0 ~ 7).
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new entry in the table.

Differentiated Services

VLAN DSCP Priority Remark

VPRI Remark: (8)DiffServe <input type="button" value="Query"/> <input type="button" value="Delete"/>			
No. From: 1 To: 2 No range from 1 to 256			
No.	Port	Incoming DSCP	Outgoing Vlan Priority
1	GIGA1	DEFAULT	0
2	GIGA1	AF12 001100	1
GIGA <input type="button" value="GIGA1"/>			
Next No: 3 Incoming DS: (00)DEFAULT <input type="button" value="Create"/>			
Priority(Out): 0			
[GIGA BRIDGE XDSL BRIDGE STATIC VLAN]			

VLAN Priority Remark Setup – Differentiated Services

Label	Description														
VPRI Remark	You can also select the priority remark type here.														
No. From ...To...	Type in the range of entry number in the table you want to view (value range is 1~256).														
Query	To query entries, type in the entry number range and then click on this button to retrieve.														
Delete	To delete entries, type in the entry number range and then click on this button to delete.														
<input type="button" value="GIGA"/> <input type="button" value="GIGA1"/>	Click on these drop-down list to select an ADSL bridge port or GIGA bridge port.														
Incoming DS	<p>Click on the drop-down list and select the incoming DSCP (Diffserv Code Points, which is a 6-bit number).</p> <p>The standardized combinations are listed below:</p> <table> <tr> <td>default</td> <td>Default value (bits:000000)</td> </tr> <tr> <td>af11</td> <td>Assured Forwarding Class 1:Low Drop (bits:001010)</td> </tr> <tr> <td>af12</td> <td>Assured Forwarding Class 1:Medium Drop (bits:001100)</td> </tr> <tr> <td>af13</td> <td>Assured Forwarding Class 1:High Drop (bits:001110)</td> </tr> <tr> <td>af21</td> <td>Assured Forwarding Class 2:Low Drop (bits:010010)</td> </tr> <tr> <td>af22</td> <td>Assured Forwarding Class 2:Medium Drop (bits:010100)</td> </tr> <tr> <td>af23</td> <td>Assured Forwarding Class 2:High Drop (bits:010110)</td> </tr> </table>	default	Default value (bits:000000)	af11	Assured Forwarding Class 1:Low Drop (bits:001010)	af12	Assured Forwarding Class 1:Medium Drop (bits:001100)	af13	Assured Forwarding Class 1:High Drop (bits:001110)	af21	Assured Forwarding Class 2:Low Drop (bits:010010)	af22	Assured Forwarding Class 2:Medium Drop (bits:010100)	af23	Assured Forwarding Class 2:High Drop (bits:010110)
default	Default value (bits:000000)														
af11	Assured Forwarding Class 1:Low Drop (bits:001010)														
af12	Assured Forwarding Class 1:Medium Drop (bits:001100)														
af13	Assured Forwarding Class 1:High Drop (bits:001110)														
af21	Assured Forwarding Class 2:Low Drop (bits:010010)														
af22	Assured Forwarding Class 2:Medium Drop (bits:010100)														
af23	Assured Forwarding Class 2:High Drop (bits:010110)														

	af31 Assured Forwarding Class 3:Low Drop (bits:011010) af32 Assured Forwarding Class 3:Medium Drop (bits:011100) af33 Assured Forwarding Class 3:High Drop (bits:011110) af41 Assured Forwarding Class 4:Low Drop (bits:100010) af42 Assured Forwarding Class 4:Medium Drop (bits:100100) af43 Assured Forwarding Class 4:High Drop (bits:100110) ef Expedited Forwarding (bits:101110)
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new entry in the table.

Protocol

VLAN Protocol Priority Remark

VPRI Remark: (9) Protocol Remark No. From: 1 To: 1
 No range from 1 to 256

No.	Port	Incoming Protocol	Outgoing Vlan Priority
1	GIGA1	ICMP	0

GIGA GIGA1

Next No: 2
 Incoming Protocol: (01) ICMP
 Priority(Out): 0

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VLAN Priority Remark Setup – Protocol

Label	Description
VPRI Remark	You can also select the priority remark type here.
No. From ...To...	Type in the range of entry number in the table you want to view (value range is 1~256).
Query	To query entries, type in the entry number range and then click on this button to retrieve.
Delete	To delete entries, type in the entry number range and then click on this button to delete.
<input type="button" value="GIGA v"/> <input type="button" value="GIGA1 v"/>	Click on these drop-down list to select an ADSL bridge port or GIGA bridge port.
Incoming Protocol	Click on the drop-down list and select the incoming protocol. Available options are: ICMP, IGMP, IP in IP, TCP, GRP, IGP, UDP, GRE, IGRP, or OSPF.
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new entry in the table.

Ether Type

VLAN Priority Remark

VPRI Remark: (10) Ether Type Remark <input type="button" value="▼"/> No. From: 1 To: 1 No range from 1 to 256 <input type="button" value="Query"/> <input type="button" value="Delete"/>			
No.	Port	Incoming EtherType	Outgoing Vlan Priority
1	GIGA1	0x8100	0
<input type="button" value="GIGA"/> <input type="button" value="GIGA1"/>			
Next No: 2 Incoming EtherType 0x: <input type="text"/> Priority(Out): <input type="button" value="0"/> <input type="button" value="Create"/>			
[GIGA BRIDGE XDSL BRIDGE STATIC VLAN]			

VLAN Priority Remark Setup – Ether Type

Label	Description
VPRI Remark	You can also select the priority remark type here.
No. From ...To...	Type in the range of entry number in the table you want to view (value range is 1~256).
Query	To query entries, type in the entry number range and then click on this button to retrieve.
Delete	To delete entries, type in the entry number range and then click on this button to delete.
<input type="button" value="GIGA"/> <input type="button" value="GIGA1"/>	Click on these drop-down list to select an ADSL bridge port or GIGA bridge port.
Incoming EtherType	Type in the EtherType value (hexadecimal).
Priority (Out)	Click on the drop-down list and select the outgoing VLAN priority (0 ~ 7).
Create	Click on this button to create a new entry in the table.

4.3.3.3 Rate Limit

This option allows you to limit the rate of broadcast/multicast packets that are received on a VLAN, and configure the Three Color Marking (TCM) Policer profile. From the *Bridge* menu, click on *Access Control* and then *Rate Limit*. The following page is displayed. Click on the *Rate Limit Type* drop-down list and select the item you want to setup.

Rate Limit [Select]

Rate Limit Type [Select]

Rate Limit Select Table

(1) Broadcast
(2) Flooding(Multicast and Unknown MAC Address)
(3) Policer Profile
(4) Policer Binding Table
(5) Three Color Marking

■ Rate Limit Broadcast

Rate Limit Broadcast

Rate Limit Type Broadcast

Committed Information Rate 1536~1000000000(Bits/sec)

Leaky Bucket 1~1024 (Milli-sec)

Rate Limit Broadcast Setup

Label	Description
Rate Limit Type	Click on this drop-down list and select the item you want to setup.
Committed Information Rate	Committed Information Rate (1536 ~ 1G bits per second). The threshold rate to turn on the rate-limit mechanism.
Leaky Bucket	Leaky bucket size. The unit is millisecond. This parameter ranges from 1 to 1024. The bucket depth is the product of CIR and this parameter.
Modify	Click on this button to modify data in the table.
Query	Click on this button to get most recent status.

■ Rate Limit Flooding

Rate Limit Flooding

Rate Limit Type: <input type="text" value="Flooding"/>		
Flooding VID: <input type="text" value="1"/>	Committed Information Rate: <input type="text" value="80000"/>	1536~1000000000(Bits/sec)
Leaky Bucket: <input type="text" value="40"/>	1~1024 (Milli-sec)	
<input type="button" value="Modify"/>	<input type="button" value="Query"/>	
Flooding VID: <input type="text" value="1"/>	<input type="button" value="Delete"/>	
VID	Committed Information Rate (Bits/sec)	Leaky Bucket (Milli-sec)

Rate Limit Flooding Setup

Label	Description
Rate Limit Type	Click on this drop-down list and select the item you want to setup.
Flooding VID	Type in VLAN ID (1 ~ 4094). The VLAN must have been created in the static VLAN table.
Committed Information Rate	Committed Information Rate (1536 ~ 1G bits per second). The threshold rate to turn on the rate-limit mechanism.
Leaky Bucket	Leaky bucket size. The unit is millisecond. This parameter ranges from 1 to 1024. The bucket depth is the product of CIR and this parameter.
Modify	Click on this button to modify data in the table.
Query	Click on this button to get most recent status.
Delete	To delete a VID entry, type in the VID number and then click on this button to delete.

■ Rate Limit Policer profile

The IDL-2402 supports two kinds of TCM Policer: two-rate TCM (with dual leaky buckets) and single-rate TCM (with single leaky bucket).

The single-rate TCM meters a traffic stream and marks its packets according to Committed Information Rate (CIR) and Committed Burst Size (CBS) to be either green, or red. The single-rate TCM operates with a single leaky bucket that is updated according to only one rate, the committed information rate - CIR. A packet is marked green if the leaky bucket is not full and red otherwise.

The two-rate TCM meters a traffic stream and marks its packets based on two rates, Committed Information Rate (CIR) and Excess Information Rate (EIR), and their associated burst sizes, Committed Burst Size (CBS) and Excess Burst Size (EBS), to be either green, yellow, or red. The two-rate TCM operates with dual leaky bucket, where each bucket is updated according to a different rate. The first bucket is updated according to the CIR, the second bucket is updated according to the EIR. A packet is marked red if it exceeds the PIR. Otherwise it is marked either yellow or green depending on whether it exceeds or doesn't exceed the EIR.

Rate Limit Policer Profile

Select	No	Share Mode	LB Mode	CIR (1536..1G bps)	EIR (1536..1G bps)	1st LBS (1..1K ms)	2nd LBS (1..1K ms)	Status
<input type="checkbox"/>	1	Share	Single	20000	--	50	--	Complete
<input checked="" type="checkbox"/>	2	NO Share	Dual	80000	80000	20	200	Complete
<input type="checkbox"/>	3	Select	Select					Non-Complete
<input type="checkbox"/>	4	Select	Select					Non-Complete
<input type="checkbox"/>	5	Select	Select					Non-Complete
<input type="checkbox"/>	6	Select	Select					Non-Complete
<input type="checkbox"/>	7	Select	Select					Non-Complete
<input type="checkbox"/>	8	Select	Select					Non-Complete
<input type="checkbox"/>	9	Select	Select					Non-Complete
<input type="checkbox"/>	10	Select	Select					Non-Complete
<input type="checkbox"/>	11	Select	Select					Non-Complete
<input type="checkbox"/>	12	Select	Select					Non-Complete

Rate Limit Poicer Setup

Label	Description
Rate Limit Type	Click on this drop-down list and select the item you want to setup.
Page (01) of 4	Click on this drop-down list and select a page to be displayed.
Select	Select the checkbox when you want to create/modify/delete this entry.
Share Mode	<p>Share mode: All the bridge ports which bind to the share mode policer profile will share the same Leaky Bucket defined by the CIR, EIR...parameters. So in Share mode, system only creates one Leaky Bucket for all the binding bridge ports.</p> <p>No Share mode:</p> <p>Every bridge port which bind to the non-share policer profile will have its own Leaky Bucket.</p>
LB Mode	<p>Single: Single Leaky Bucket. For SLB, there is one controlling parameter: CIR.</p> <p>Dual: Dual Leaky Bucket. For DLB, there are two controlling parameters: CIR and EIR.</p>
CIR	Committed Information Rate (1536 ~ 1G bits per second) controls the number of tokens in the first bucket (CBS bucket).
EIR	Excess Information Rate (1536 ~ 1G bits per second) controls the number of tokens in the second bucket (EBS bucket).
1st LBS	1 st Leaky Bucket Size. The unit is millisecond. This parameter ranges from 1 to 1024. The first bucket depth is the product of CIR and this parameter.
2nd LBS	2 nd Leaky Bucket Size. The unit is millisecond. This parameter ranges from 1 to 1024. The second bucket depth is the product of EIR and this parameter.
Modify	Click on this button to modify an entry in the rate limit table.
Query	Click on this button to retrieve the entries in the table.
Delete	Click on this button to delete the entries in the table.

■ Rate Limit Policer Binding Table

The Rate Limit Policer Binding Table allows you to specify which Policer profile to bind and the binding status for a trunk or line bridge port.

Rate Limit Policer Binding Table

Rate Limit Type Policer Binding Table ▼			
GIGA ▼ Modify Query			
Select	Port	Policer No.	Binding Status
<input checked="" type="checkbox"/>	GIGA1	▼	OFF ▼

Rate Limit Policer Binding Setup

Label	Description
Rate Limit Type	Click on this drop-down list and select the item you want to setup.
GIGA ▼	Click on these drop-down lists to select an ADSL bridge port or GIGA bridge port.
Modify	Once you have finished setting the parameter values, click on this button to submit the modification.
Query	Click on this button to get most recent data.
Select	Remember to select the checkbox when you want to modify this entry.
Policer No.	Click on the drop-down list and select the Policer profile you want to bind with this port.
Binding Status	Select to bind (ON) or unbind (OFF) the Policer profile.

■ Three Color Marking Policer

The IDL-2402 supports TCM Policer in accordance with the Metro Ethernet Forum (MEF) Bandwidth Profile and RFCs 2697 & 2698. Our TCM Policer supports both Color Aware and Color Blind modes. The “color” is used for determining whether a packet will proceed to the policer when TCM Policer works in Color Aware mode; also in the policer the packet may be remarked with new color according to the packet’s conformance to the policer rules. A packet is considered green when it enters the TCM Policer only if its input color field, VLAN priority bits or DSCP field, has the same value with the green value configured in this page (see the following figure and parameter description). Likewise, a packet is considered yellow only if its input color field has the same value with the yellow value configured in this page. All other values are considered red.

Once a packet has passed through the TCM Policer, it will be directed to the class queues for scheduling.

Rate Limit Three Color Marking

Rate Limit Type: Three Color Marking					
If the Color Field is VLAN Priority mode then the Colors Value are 0..7 If the Color Field is DSCP mode then the Colors Value range are 0..63					
<input type="button" value="Modify"/> <input type="button" value="Query"/>					
Color Aware	Color Field	Packet Mode	Green Value	Yellow Value	Red Value
Aware	(1)VLAN Priority	TAG	1	3	7

Rate Limit Policer Binding Setup

Label	Description
Rate Limit Type	Click on this drop-down list and select the item you want to setup.
Modify	Once you have finished setting the parameter values, click on this button to submit the modification.
Query	Click on this button to get most recent data.
Color Aware	<p>Color aware mode: the packets are classified before they’re sent through the policer.</p> <p>Color blind mode: the packets are directed through the entire policer regardless of their color.</p>
Color Field	There are two fields you can select for determining the packet’s input color: the VLAN priority bits within the Ethernet header or the DSCP field within the IP header.
Packet Mode	This parameter defines the action for non-conforming packets. You can choose Tag or Discard. If Tag is chosen, then all the packets will be marked as red in the Color field rather than be discarded.

Green Value	Type in the green color value that is used when determining a packet's input color (for Color Aware mode) or remarking a packet's output color as green. Valid value is 0 ~ 7 for VLAN Priority color field or 0 ~ 63 for DSCP color field.
Yellow Value	Type in the yellow color value that is used when determining a packet's input color (for Color Aware mode) or remarking a packet's output color as yellow. Valid value is 0 ~ 7 for VLAN Priority color field or 0 ~ 63 for DSCP color field.
Red Value	Type in the red color value that is used when remarking a packet's output color as red. Valid value is 0 ~ 7 for VLAN Priority color field or 0 ~ 63 for DSCP color field.

4.3.3.4 Priority Queue Mapping

This web page is used to select SPQ/WFQ/WRR queuing mechanism and to setup the mapping between VLAN priority levels and system internal queues. From the *Bridge* menu, click on *Access Control* and then *Priority Queue Mapping*. The following page is displayed:

Priority Queue Mapping

Modify		Query					
Weighted range from 1..255							
GIGA Queue Scheduling	ATM Queue Scheduling	Queue#3 Weighted	Queue#2 Weighted	Queue#1 Weighted	Queue#0		
SPQ	SPQ	40	30	20	10		
GIGA Priority#7	GIGA Priority#6	GIGA Priority#5	GIGA Priority#4	GIGA Priority#3	GIGA Priority#2	GIGA Priority#1	GIGA Priority#0
Queue#3	Queue#3	Queue#2	Queue#2	Queue#1	Queue#1	Queue#0	Queue#0
ATM Priority#7	ATM Priority#6	ATM Priority#5	ATM Priority#4	ATM Priority#3	ATM Priority#2	ATM Priority#1	ATM Priority#0
Queue#7	Queue#6	Queue#5	Queue#4	Queue#3	Queue#2	Queue#0	Queue#1

The queues for Giga and ATM interfaces are different.

Giga:

The Giga interface has 4 Queues and these queues can only work on Strict Priority Queuing (SPQ) scheduling. The priorities of these queues are: Q3 > Q2 > Q1 > Q0.

ATM:

Each ATM PVC bridge interface on each ADSL port has 8 Queues and can work in SPQ or SPQ/WFQ mix mode.

For SPQ, the priorities of these queues are: Q7 > Q6 > Q5 > Q4 > Q3 > Q2 > Q1 > Q0. For SPQ/WFQ mixed, the priority of SPQ queues (Q7~Q4) is higher than WFQ queues (Q3~Q0).

And:

Q7 ~ Q4 are for SPQ and the priorities are Q7 > Q6 > Q5 > Q4.

Q3 ~ Q0 are for WFQ (Weighted Fair Queuing) and you can define the weight value for Q3 ~ Q0.

Note that if each queue has different weight value, the system will work as WFQ mode. If all queues have the same weight value, the system will work as Weighted Round Robin (WRR) mode.

The system allows 8 priority levels fully work as WFQ or WRR mode, via using queues of Q3 ~ Q0 only in the Priority Queue Mapping table.

4.3.4 Forwarding

4.3.4.1 TP Forwarding DB

This option allows you to retrieve the status of the transparent forwarding database. The forwarding table will reveal the information of MAC addresses that are learned or statically configured on a specific bridge port. From the *Bridge* menu, click on *Forwarding* and then *TP Forwarding DB*. The following page is displayed.

Forward Table

Aging Time(10..1000000 Sec):		<input type="text" value="300"/>	<input type="button" value="Modify"/>					
No. From	<input type="text" value="1"/>	To	<input type="text" value="15"/>					
No range from 1 to 6144		<input type="button" value="Query"/>						
No.	Source MAC	IFC	Port	Status	VID	Aging Bit	Process Mode	Unknown Mac Mode
1	02:11:22:33:44:AA	1	Giga:1	Dynamic	100	True	PASS	Disabled
2	66:00:00:00:00:33	4	Port-PVC:1-1	Static	1	False	PASS	Disabled

TP Forwarding DB

Label	Description
Aging Time	Type in the aging time in seconds. An entry will be removed from the FDB (aged-out) if the device does not transmit for a specified period of time (the aging time).
Modify	Click on this button to submit the modification of Aging Time.
No. From...To...	Select the range of entry number in the forwarding database to be displayed.
Query	Once you have selected the entry number, click on this button to get most recent status of MAC addresses forwarding.

4.3.4.2 Forwarding Static

This option allows you to configure the static MAC address forwarding entries on a specific bridge port. The setting of static MAC address takes effect on egress direction of bridge port. From the *Bridge* menu, click on *Forwarding* and then *Forwarding Static*. The following page is displayed.

Forwarding Static

No. From To
 No. range form 1 to 512

No.	Destination MAC	Output Port	VID	Process mode
2	ee:00:ff:00:00:33	GIGA1	1	PASS

GIGA GIGA1

Next No:
 Source MAC
 VID: Process:

Forwarding Static

Label	Description
No. From...To...	Select the range of entry number in the FDB to be retrieved. Valid number value: 1 ~ 512.
Query	Click on this button to display the static MAC forwarding entries.
Delete	Delete the entries according to the entry number range you type in.
<input type="button" value="GIGA"/> <input type="button" value="v"/> <input type="button" value="GIGA1"/> <input type="button" value="v"/>	Click on these drop-down list to select a bridge port (ADSL bridge port or GIGA bridge port) where the static forwarding entries to be configured.
Source MAC	Type in the MAC address for the static entry.
VID	Type in the VID for the static entry (1 ~ 4094).
Process	Click on the drop-down list and select "Deny" or "Pass". "Pass" means to forward the packets with destination MAC address matching one of the static forwarding MAC addresses to a specified output bridge port. "Deny" means to drop the packets.
Create	Click on this button to create a new entry.

4.3.5 Relay

4.3.5.1 DSL Line Identify

This option allows you to configure the DHCP option and PPPoE relay function. From the *Bridge* menu, click on *Relay* and then *DSL Line Identify*. The following page is displayed:

DSL Line Identify


DSL Global Configuration
 PPP Service Name: PPP Service Name Check mode: Disabled ▾
 DSLAM Name: DSLAM Name mode: Customer ▾
 Dhcp Mode: Relay OFF ▾ ID Select: Circuit ID ▾
 Circuit ID Type: DEFAULT ▾ Remote ID Type: DEFAULT ▾

DSL Line ID Configuration
Port 01~12 ▾ PVC-1 ▾

Select	Port	Circuit ID	Remote ID	Trusted
<input type="checkbox"/>	01	IPDSLAM:001:000:00035	IPDSLAM:001/1	FALSE ▾
<input type="checkbox"/>	02	IPDSLAM:002:000:00035	IPDSLAM:002/1	FALSE ▾
<input type="checkbox"/>	03	IPDSLAM:003:000:00035	IPDSLAM:003/1	FALSE ▾
<input type="checkbox"/>	04	IPDSLAM:004:000:00035	IPDSLAM:004/1	FALSE ▾
<input type="checkbox"/>	05	IPDSLAM:005:000:00035	IPDSLAM:005/1	FALSE ▾
<input type="checkbox"/>	06	IPDSLAM:006:000:00035	IPDSLAM:006/1	FALSE ▾
<input type="checkbox"/>	07	IPDSLAM:007:000:00035	IPDSLAM:007/1	FALSE ▾
<input type="checkbox"/>	08	IPDSLAM:008:000:00035	IPDSLAM:008/1	FALSE ▾
<input type="checkbox"/>	09	IPDSLAM:009:000:00035	IPDSLAM:009/1	FALSE ▾
<input type="checkbox"/>	10	IPDSLAM:010:000:00035	IPDSLAM:010/1	FALSE ▾
<input type="checkbox"/>	11	IPDSLAM:011:000:00035	IPDSLAM:011/1	FALSE ▾
<input type="checkbox"/>	12	IPDSLAM:012:000:00035	IPDSLAM:012/1	FALSE ▾

DSL Line Identify Setup

Label	Description
DSL Global Configuration	
PPP Service Name	Type in the PPPoE service name to add.
PPP Service Name Check mode	Enable: the system will check whether the PPPoE service names from the PPPoE server and client are the same. If not the same, the PPP connection between server and client will not be established. Disable: the system will not check the PPPoE service name.
DSLAM Name	Type in name of the DSLAM when DSLAM Name mode is set to 'Customer'.

DSLAM Name mode:	Select the DSLAM name to be customer-defined or cluster name (Domain name:NE name).
DHCP Mode	Click on this drop-down list and select OFF/ON to disable/enable DHCP relay function.
ID Select	Click on this drop-down list and select the Relay Agent Information that is inserted to the forwarding packets. Options are: Circuit ID, Remote ID, or Both.
Circuit ID Type	Click on this drop-down list and select the type of Circuit ID. Options are: DEFAULT, CUSTOMER. DEFAULT means our system-defined default type (<DSLAM name>:<circuit number>:<vpi>:<vci>); CUSTOMER means the customer-defined type.
Remote ID Type	<p>Click on this drop-down list and select the format of Remote ID. Options are: DEFAULT, Line ID (ADSL line identifier), Line Desc (description for the line), Line Phone (phone number), CUSTOMER.</p> <p>DEFAULT means our system default format, which is DSLAM name:port_id/bridge_id. CUSTOMER means the customer-defined format; customer can type in any word not exceeding 48 characters.</p> <p>For Line ID, the format is port_id/bridge_id:Port Identifier.</p> <p>For Line Desc, the format is port_id/bridge_id:Port Description.</p> <p>For Line Phone, the format is port_id/bridge_id:Port Phone Number. The Port Identifier, Description, and Phone Number are set in the ADSL line information table (refer to section 4.4.3).</p>
Set	Once you have changed the setting of any one of the parameters (DHCP Mode, ID Select, CKT Type, Remote Type, DLSAM Name, Service Name), remember to click on Set to submit the modification.
DSL Line ID Configuration	
	Click on these drop-down lists to select the bridge ports to be displayed (these bridge ports must have been created in previous web page).
Query	Click on this button to display table.
Modify	Click on this button to submit the modification of DSL line identify table.
Select Port	Bridge port index. Select the checkbox(s) corresponding to the circuit(s) of which you want to modify the setting.
Circuit ID	Type in the Circuit ID when CUSTOMER is selected for the CKT Type.
Remote ID	Type in the Remote ID when CUSTOMER is selected for the Remote Type.
Trusted	Click on this drop-down list and specify the circuit to be trusted (TRUE), or untrusted (FALSE; the relay agent will discard the DHCP packets from an untrusted circuit).

4.3.6 IGMP

4.3.6.1 Protocol & Router Port

This option allows you to setup the IGMP protocol and router port. From the *Bridge* menu, click on *IGMP* and then *Protocol & Router Port*. The following page is displayed:

IGMP Protocol & Router Port

IGMP Protocol Settings

All of the interval from 1 to 500
 Query(Query Interval),URI(Unsolicited Report Interval),BC(Older host present interval)
 MRT(Max Response Time),LMQT(Last Member Query Time),GMT(Group Membership Time) readonly

IGMP Version	IGMP Mode	IGMP ACL Mode	Deny NO Alert	Max Groups Limit
IGMP V2	Snooping	Disabled	Disabled	Disabled

Query	URI	BC	MRT	LMQT	GMT
125	1	400	10	1	260

Router Port Settings

GIGA1 Router Port VID: Router IP:

The IGMP Router's IP is available while IGMP in Proxy mode.
 "0.0.0.0" means an operator is needless IGMP Router's IP.

Delete Select	VID	Router Port	Router IP
<input type="checkbox"/>	1	GIGA 1	172.002.002.002

IGMP Router Port Setup

Label	Description
Modify	Click on this button to modify the IGMP configuration once you have set new values for the parameters.
IGMP Version	Select the IGMP version. Options are: IGMP OFF, IGMP V1, IGMP V2, and IGMP V3.
IGMP Mode	Select the IGMP mode. Options are: Snooping and Proxy.
IGMP ACL Mode	Disable or enable ACL mode. IGMP ACL profile (refer to section 4.3.6) will be effective only when ACL mode is enabled.
Deny No Alert	Enabled: the system will deny IGMP packets that have no router alert option in their IP header. Disabled: default value; the system will not care router alert option.
Max Groups Limit	Enabled: the system will limit the maximum active counter of IGMP groups can be joined (concurrently) for every bridge port. Disabled: the system will not limit the counter of IGMP groups can be joined for the bridge port.

Query 1~500(s)	The Query Interval is the interval between General Queries sent by the Querier. By varying this value, an administrator may tune the number of IGMP messages on the network; larger values cause IGMP Queries to be sent less often. Value range is 1 ~ 500. Default is 125 seconds.
URI 1~500(s)	The Unsolicited Report Interval is the time between repetitions of a host's initial report of membership in a group. Value range is 1 ~ 500. Default: 1 second.
BC 1~500(s)	The Older Host Present Interval. It represents how long a host must wait after hearing a Version 1 Query before it may send any IGMPv2 messages. Default is 400 (sec).
MRT 1~500(s)	The burstiness of IGMP traffic is inversely proportional to the Max Response Time. A longer Max Response Time will spread Report messages over a longer interval. However, a longer Max Response Time in Group-Specific and Source-and-Group- Specific Queries extends the leave latency. (The leave latency is the time between when the last member stops listening to a source or group and when the traffic stops flowing.). Value range is 1 ~ 500. Default is 10.
LMQT 1~500(s)	The Last Member Query Interval is the Max Response Time used to calculate the Max Resp Code inserted into Group- Specific Queries sent in response to Leave Group messages. It is also the Max Response Time used in calculating the Max Resp Code for Group-and-Source-Specific Query messages. Value range is 1 ~ 500. Default is 1.
GMT 1~500(s)	Read-only value. The Group Membership Interval is the amount of time that must pass before a multicast router decides there are no more members of a group or a particular source on a network. This value MUST be ((the Robustness Variable) times (the Query Interval)) plus (one Query Response Interval).
GIGA1	Click on this radio button to select GBE
Route Port VID	Type in the VID you want to setup/delete the router port for. Valid VID value is 1 ~ 4094.
Router IP	Type in IGMP router IP address. When working in IGMP proxy mode, DSLAM will send IGMP general query whose source IP address is 0.0.0.0. But PCs with Windows OS do not receive this kind of packets. So user can assign an IP address here for proxy mode IGMP general query packet reference.
Create	Click on this button to create a new entry.
Delete	To delete an entry, select the checkbox of the entry and then click on Delete button.

4.3.6.2 IGMP Profile

This option allows you to configure the IGMP ACL (Access Control List) profile. This profile defines the IGMP multicast channels, which are allowed to join for each ADSL port. That is, a multicast stream will be copied to an ADSL port only if that multicast stream is registered in the ACL profile that is bound to this ADSL port. The maximum number of IGMP multicast channels in an ACL profile is 256. Note that the same multicast channel can be existed concurrently in two or more ACL profiles.

The ACL profile will be referred to only when ACL mode is enabled in the IGMP Configuration page (refer to section 4.3.6). From the *Bridge* menu, click on *IGMP* and then *IGMP Profile*. The following page is displayed:

IGMP Profile page = >

IGMP ACL Profile

Select Channel	IP Address	VID	Select Channel	IP Address	VID
<input type="checkbox"/> 1	224 . 2 . 5 . 1	1	<input type="checkbox"/> 2	224 . 1 . 1 . 1	1
<input type="checkbox"/> 3	224 . 1 . 1 . 1	1	<input type="checkbox"/> 4	224 . 1 . 1 . 1	1
<input type="checkbox"/> 5	224 . 1 . 1 . 1	1	<input type="checkbox"/> 6	224 . 1 . 1 . 1	1
<input type="checkbox"/> 7	224 . 1 . 1 . 1	1	<input type="checkbox"/> 8	224 . 1 . 1 . 1	1
<input type="checkbox"/> 9	224 . 1 . 1 . 1	1	<input type="checkbox"/> 10	224 . 1 . 1 . 1	1
<input type="checkbox"/> 11	224 . 1 . 1 . 1	1	<input type="checkbox"/> 12	224 . 1 . 1 . 1	1
<input type="checkbox"/> 13	224 . 1 . 1 . 1	1	<input type="checkbox"/> 14	224 . 1 . 1 . 1	1
<input type="checkbox"/> 15	224 . 1 . 1 . 1	1	<input type="checkbox"/> 16	224 . 1 . 1 . 1	1

IGMP ACL Profile Configuration

Label	Description
Profile ID	Click on this drop-down list and specify the profile ID. Valid value is 01 ~ 48.
IP CHANNEL MAP	Click on this drop-down list and select the channel index range. Options are: Channel 001~032, Channel 033~064, ..., Channel 225~256.
All select	Click on this checkbox to select all channels in this page at one time. This is convenient for quick value assignment.

Quickly IP Assign	Type the IGMP group IP address here for quick assignment. Click on Assign button to put the value into the table. Then you can modify parts of the IP addresses directly in the table.
Quickly VID Assign	Type the IGMP group IP address here for quick assignment. Click on Assign button to put the value into the table.
Assign	Click on this button to apply the parameter values you have just entered. But these values haven't been really saved in the database. You must click on Create to save the values. Once the setting has been saved, you cannot modify the values. You must delete the channel and then create again.
Select	Click on this checkbox to select the channel you want to create, delete, or assign values.
IP Address	You can type the IGMP group address here and then click on Create button to save. Valid values: 224.0.0.0 ~ 239.255.255.255. The range of addresses from 224.0.0.0 to 224.0.0.255 is reserved for the use of routing protocols and other low-level topology discovery or maintenance protocols.
Query	Click on this button to display current channels in the profile.
Create	Click on this button to create new channels (IGMP group address).
Delete	Click on this button to delete channel(s) (IGMP group address).

Binding Profile page = >

[IGMP ACL Profile](#)

IGMP PROFILE		BINDING PROFILE												
ADSL	Port 01~12	PVC-1												
Max Groups range form 1 to 128														
Modify														
All select:	<input checked="" type="checkbox"/>	Quickly Max Group Assign:												
Quickly Profile ID Assign:	(01)	Quickly Binding Assign:	off											
Assign														
Port	Max Groups	Profile ID	Binding Status	Port	Max Groups	Profile ID	Binding Status	Port	Max Groups	Profile ID	Binding Status			
Port01	<input checked="" type="checkbox"/>	9	(01)	off	Port02	<input checked="" type="checkbox"/>	8	(01)	off	Port03	<input checked="" type="checkbox"/>	118	(02)	on
Port04	<input checked="" type="checkbox"/>	8	(01)	off	Port05	<input checked="" type="checkbox"/>	128	(01)	on	Port06	<input checked="" type="checkbox"/>	8	(01)	off
Port07	<input checked="" type="checkbox"/>	8	(01)	off	Port08	<input checked="" type="checkbox"/>	8	(01)	off	Port09	<input checked="" type="checkbox"/>	8	(01)	off
Port10	<input checked="" type="checkbox"/>	8	(01)	off	Port11	<input checked="" type="checkbox"/>	8	(01)	off	Port12	<input checked="" type="checkbox"/>	8	(01)	off

IGMP ACL Profile Binding

Label	Description
ADSL Port 01~12 PVC-1	Click on these drop-down lists to select a line bridge port.

All select	Click on this checkbox to select all ports in this page at one time. This is convenient for quickly value assignment.
Quickly Max Group Assign	This field is for quick value assignment (assign the same value to all the ports in current page at one time). Type in the maximum IGMP groups can be joined simultaneously per line port, and then click on Assign to put the value into the table.
Quickly Profile ID Assign	Click on this drop-down list to select the profile ID you want to bind. This is for quick value assignment.
Quickly Binding Assign	Click on this drop-down list to select the binding action. This is for quick value assignment. Options are: off -- unbind the profile, on -- bind the profile, reset -- rebind the profile.
Assign	Click on this button to apply the parameter values you have just entered (or selected). But these values haven't been really saved in the database. You must click on Modify to save the values.
Modify	Click on this button to submit the modification.
Port	Click on the checkbox to select the port you want to modify or assign values.
Max Groups	You can type in the maximum IGMP groups can be joined simultaneously to limit the concurrent multicast channels for a bridge port. This value is effective only when the limit maximum IGMP groups function is enabled (refer to section 4.3.6).
Profile ID	You can select the profile ID you want to bind here.
Binding Status	You can select the binding action here.

4.3.6.3 IGMP Multicast

This option allows you to query the IGMP multicast status. From the *Bridge* menu, click on *IGMP* and then *IGMP Multicast*. The *IGMP Group* page is displayed. Click on the *IGMP Type* drop-down list and select *Group* or *Source*.

IGMP Type > Group: Click on *List by* drop-down list to select listing by entry number or listing by VID & IGMP group IP.

List by Number:

IGMP Group

IGMP Type: Group ▼						
List by: Number ▼ No. From 1 To 5 Query						
No.	VID	Group IP	AddActions	IGMP Mode	Number of sources	Port
1	1003	224.0.0.13	1	Exclude	0	ADSL Port3-PVC3,
2	1004	224.0.0.12	1	Exclude	0	ADSL Port4-PVC2,
3	1002	224.0.0.11	1	Exclude	0	ADSL Port2-PVC4,
4	1001	224.0.0.10	1	Exclude	0	ADSL Port1-PVC1,

IGMP Group – List by Number

Label	Description
No. From...To...	Type in the entry number range in the table.
Query	Click on this button to display the table entries.

List by VID & Group IP:

IGMP Group

IGMP Type: Group ▼						
List by: VID & Group IP ▼ VID: 1001 Group IP: 224.0.0.10 Query						
VID	Group IP	AddActions	IGMP Mode	Number of sources	Port	
1001	224.0.0.10	1	Exclude	0	ADSL Port1-PVC1,	

IGMP Group – List by VID & Group IP

Label	Description
VID	Type in the VLAN ID (1~ 4094).
Group IP	Type in the IGMP group IP address.
Query	Click on this button to display the table entries.

IGMP Type > Source: This option allows you to query the *Source IP*, which is the IP address of the source that is joining a multicast group on an interface. This option is available only when IGMP version 3 is selected for the system's IGMP configuration (refer to section 4.3.6).

IGMP Source

IGMP Type: Source ▼					
VID: 1001	Group IP: 224.0.0.11	No. From 1	To 5	<input type="button" value="Query"/>	
No	VID	Group IP	Source IP	Timer On	Port
1	1001	224.0.0.11	192.168.100.100	0	ADSL Port1-PVC1,
2	1001	224.0.0.11	192.168.100.101	0	ADSL Port1-PVC1,

IGMP Source

Label	Description
VID	Type in the VLAN ID (1~ 4094).
Group IP	Type in the IGMP group IP address.
No. From...To...	Type in the entry number range in the table.
Query	Click on this button to display the table entries.

4.3.7 IPOA

4.3.7.1 BRAS MAC

The IDL-2402 supports an IPOA/IPOE IWF (Interworking Function). This option allows you to setup the BRAS MAC address that is used by the IPOA/IPOE IWF. From the *Bridge* menu, click on *IPOA* and then *BRAS MAC*. The following page is displayed.

To add/modify a MAC:

Select a checkbox beside an index and type in BRAS MAC address, and then click on **Modify** button.

To delete a MAC:

Select a checkbox (checkboxes) beside the index and then click on **Delete** button.

IPoA BRAS MAC

Select	Index	BRAS MAC(xx:xx:xx:xx:xx:xx)
<input type="checkbox"/>	1	: : : : :
<input type="checkbox"/>	2	: : : : :
<input type="checkbox"/>	3	: : : : :
<input type="checkbox"/>	4	: : : : :
<input type="checkbox"/>	5	: : : : :
<input type="checkbox"/>	6	: : : : :
<input type="checkbox"/>	7	: : : : :
<input type="checkbox"/>	8	: : : : :
<input type="checkbox"/>	9	: : : : :
<input type="checkbox"/>	10	: : : : :
<input type="checkbox"/>	11	: : : : :
<input type="checkbox"/>	12	: : : : :

4.3.7.2 Interface Setup

This option allows you to setup the interface for IPoA/IPoE IWF. From the *Bridge* menu, click on *IPOA* and then *Interface Setup*. The following page is displayed.

Click on the radio button to select a circuit, set values for the parameters, and then click on **Modify** button.

IPoA Interface Setup

Port 01~12												
VPI: 0		VCI: 43		MaxMAC: 4		CVID: 1001						
CVPRI: Pri-0		Traffic:Rx Default[UnShaped]			Tx Default[UnShaped]							
Bras: Macldx-1		Uplink: Giga1		Encap: LLC		Status: Disable		Modify		Query		
Select Port	VPI	VCI	MAX MAC	C-VLAN ID	C-VLAN Priority	Traffic Rx/Tx	BRAS Macldx	Uplink Index	AAL5 Encap	IPoA Status		
<input checked="" type="radio"/>	1	0	43	4	1001	0	Def / Def	1	Giga1	LLC	Disabled	
<input type="radio"/>	2	0	43	4	1002	0	Def / Def	1	Giga1	LLC	Disabled	
<input type="radio"/>	3	0	43	4	1003	0	Def / Def	1	Giga1	LLC	Disabled	
<input type="radio"/>	4	0	43	4	1004	0	Def / Def	1	Giga1	LLC	Disabled	
<input type="radio"/>	5	0	43	4	1005	0	Def / Def	1	Giga1	LLC	Disabled	

IPoA Interface Setup

Label	Description
Port 01~12	Click on the drop-down list and select the line ports to be listed.
VPI	Type in the VPI. Value range is 0 ~ 255.
VCI	Type in the VCI. Value range is 21, 32 ~ 65535.
MaxMAC	Type in the maximum number of MAC addresses that can be learned by the bridge port (for GBE interface: 1 ~ 4096, for DSL interface: 1 ~ 128).
CVID	Type in the VID value of C-Tag (the innermost VLAN tag as defined in IEEE 802.1ad and having an EtherType value of 0x8100). The C-VID indicates the access loop.
CVPRI	Click on the drop-down list and select the VLAN priority level of C-Tag (Pri-0 ~ 7).

Traffic (Rx/Tx)	Click on the drop-down lists and select a traffic type for transmit and receive direction respectively. Available options are created in the ATM Traffic Descriptor page. See section 4.5.1.
BRAS	Click on the drop-down list and select a BRAS MAC. Available options are created in the <i>IPoA BRAS MAC</i> page. See section 4.3.7.
Uplink	Click on the drop-down list and select the uplink interface.
Encap	Select AAL5 Encapsulation Type: VCMUX/LLC
Status	Enable/Disable IPoA IWF.
Modify	Click on this button to submit the modification.
Query	Click on this button to query most recent data.

4.4 ADSL

4.4.1 Profile

4.4.1.1 Service Main Profile

This option allows you to configure the ADSL line service profile. From the *ADSL* menu, click on *Profile* and then *Service Profile(main)*. The following page is displayed.

ADSL Service Profile

ADSL Service Profile				
Select Index: (1)01~10 <input type="button" value="Modify"/> <input type="button" value="Delete"/> <input type="button" value="Query"/>				
The First Index is default profile can't modify & delete.				
	Index	Name	Rate Mode DownStream	Rate Mode UpStream
Next →	3	Test	(3)Dynamic	(3)Dynamic
<input type="radio"/>	1	default	Init	Init
<input type="radio"/>	2	Name2	Manual	Manual
<input checked="" type="radio"/>	3	Test	Dynamic	Dynamic
<input type="radio"/>	4	----	----	----
<input type="radio"/>	5	----	----	----
<input type="radio"/>	6	----	----	----
<input type="radio"/>	7	----	----	----
<input type="radio"/>	8	----	----	----
<input type="radio"/>	9	----	----	----
<input type="radio"/>	10	----	----	----

ADSL Line Service Profile setup

Label	Description
Select Index	Click on the drop-down list and select the range of profile index. Options are: 0~10, 11~20, ..., 111~120.
Index	This field shows the profile index. Click on the radio button beside the profile index to select the profile you want to modify or delete. Note that profile 1 (default) cannot be modified or deleted.
Name	Type in the name of the profile.

<p>Rate Mode Downstream</p>	<p>Click on the drop-down list and select the Downstream Rate Adaptive Mode. Valid options are:</p> <p>Manual – Rate changed manually</p> <p>Init – Rate automatically selected at start up only and does not change after that</p> <p>Dynamic – Rate automatically selected at initialization and is continuously adapted during operation (show time).</p>
<p>Rate Mode Upstream</p>	<p>Click on the drop-down list and select the Upstream Rate Adaptive Mode. Valid options are:</p> <p>Manual – Rate changed manually</p> <p>Init – Rate automatically selected at start up only and does not change after that</p> <p>Dynamic - Rate automatically selected at initialization and is continuously adapted during operation (show time).</p>

4.4.1.2 Service Channel Profile

This option allows you to configure the ADSL service channel profile. From the *ADSL* menu, click on *Profile* and then *Service Profile(Channel)*. The following page is displayed.

ADSL Service Channel Profile

Select Index: (1)1~5 <input type="button" value="Modify"/> <input type="button" value="Query"/>													
The First Index is default profile can't modify & delete. To modify a service channel profile, please create service main profile first.													
Index	L2 Packet	Direction	BitRate (kbit/s)0~65535				DownShift		UpShift		InterLeave MaxDelay 1~63 (ms)	Min INP 0~8 (symbols)	
			Min	Planned	Max	L2 Min	Noise Margin (db)	Min Interval (sec)	Noise Margin (db)	Min Interval (sec)			
Next → 1	23	DS	128	1024	65535	128	3.0	10	9.0	10	1	0.0	
		US	4	128	65535	N/A	3.0	10	9.0	10	1	0.0	
<input checked="" type="radio"/> 1	23	DS	128	1024	65535	128	3.0	10	9.0	10	1	0.0	
		US	4	128	65535	---	3.0	10	9.0	10	1	0.0	
<input type="radio"/> 2	23	DS	128	1024	65535	128	3.0	10	9.0	10	1	0.0	
		US	4	128	65535	---	3.0	10	9.0	10	1	0.0	
<input type="radio"/> 3	23	DS	128	1024	65535	128	3.0	10	9.0	10	1	0.0	
		US	4	128	65535	---	3.0	10	9.0	10	1	0.0	
<input type="radio"/> 4	0	DS	0	0	0	0	0.0	0	0.0	0	0	0.0	
		US	0	0	0	---	0.0	0	0.0	0	0	0.0	
<input type="radio"/> 5	0	DS	0	0	0	0	0.0	0	0.0	0	0	0.0	
		US	0	0	0	---	0.0	0	0.0	0	0	0.0	

ADSL Service Channel Profile setup

Label	Description
Select Index	Click on the drop-down list and select the range of profile index. Options are: 1~5, 6~10, ..., 116~120.
Index	This field shows the profile index. Click on the radio button beside the profile index to select the profile you want to modify. Note that profile 1 (default) cannot be modified.
L2 Packet	This is a threshold value that is the minimum packet size before the system leaving the L2 low power state. Valid value is 0~32.
Direction	DS: downstream. US: upstream.
BitRate	Min: Minimum bit rate during show time Planned: Planned bit rate during setup Max: Maximum bit rate during show time L2 Min: Minimum bit rate during L2 low power state
DownShift Noise Margin (dB)	Decrease net data rate if Noise Margin is below the Downshift Noise

Min Interval (sec)	Margin for DownShift Min Interval.
UpShift Noise Margin (dB)/Min Interval (sec)	Increase net data rate if Noise Margin is above the Upshift Noise Margin for Upshift Min Interval.
Interleaving MaxDelay	Maximum interleaving delay (1~63 ms)
IMP 0~8 (symbols)	Minimum impulse noise protection (0.0~8.0 dB)

4.4.1.3 Spectrum Main Profile

This option allows you to configure the ADSL spectrum profile. From the *ADSL* menu, click on *Profile* and then *Spectrum Profile(main)*. The following page is displayed.

ADSL Spectrum Profile

Select Index: (1)1~4 Query Modify Delete										
The First Index is default profile can't modify & delete.										
OP Mode-1 Carrier Mask-1 RFI-1										
Index	Name	Power Mode	Pwr Management		Direction	Message		Noise Margin 0~31.0,51.1(db)		
			L0 Time	L2 ATPR		ds min				
			L2 Time	L2 ATPRT		us min	Min	Tar	Max	
Next → 1	default	Disable L2 L2L3 <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	30	1	DS	4	0.0	6.0	51.1	
			30	6	US	4	0.0	6.0	51.1	
<input checked="" type="radio"/> 1 complete	default	Disable	30	1	DS	4	0.0	6.0	51.1	
			30	6	US	4	0.0	6.0	51.1	
<input type="radio"/> 2 complete	Name2	Disable	30	1	DS	4	0.0	6.0	51.1	
			30	6	US	4	0.0	6.0	51.1	
<input type="radio"/> 3	----	----	--	--	DS	--	--	--	--	
			--	--	US	--	--	--	--	
<input type="radio"/> 4	----	----	--	--	DS	--	--	--	--	
			--	--	US	--	--	--	--	

ADSL Spectrum Profile setup

Label	Description
Select Index	Click on the drop-down list and select the range of profile index. Options are: 1~4, 5~8, ..., 117~120.
Index	This field shows the profile index. Click on the radio button beside the profile index to select the profile you want to modify or delete. Note that profile 1 (default) cannot be modified or deleted.
Name	Type in the name of the profile.
Power Mode	Click on the radio button to select allowed power management mode. Options are Disable (only L0 state allowed), L2 (L0 and L2 states allowed), L2L3 (L0, L2, and L3 states allowed).
L0 Time	Type in the minimum time (in seconds) between Exit from L2 low power state and the next Entry into the L2 low power state. Value range is 0 ~ 255.
L2 Time	Type in the minimum time (in seconds) between an Entry into L2 low power state and the first L2 low power trim request, and between two consecutive L2 power trim requests. Value range is 0 ~ 255.
L2 ATPR	Type in the maximum aggregate transmit power reduction (in dB) that is allowed at

	transition of L0 to L2 state or an L2 low power trim request. Value range is 0 ~ the value of L2 ATPRT (dB).																										
L2 ATPRT	Type in the total maximum aggregate transmit power reduction (in dB) that is allowed in the L2 state; the total reduction is the sum of all reductions of L2 Request (i.e., at transition of L0 to L2 state) and L2 power trims. Value range is 0 ~ 15 (dB).																										
Direction	DS: downstream. US: upstream.																										
Message	Type in the minimum rate of the message-based overhead that shall be maintained by the ATU in upstream/downstream direction. Value range is 4 ~ 28k bit/s.																										
Noise Margin	Type in the Noise Margin values. Min: Minimum noise margin (0.0~31.0,51.1db, default 0.0) Tar: Target noise margin (0.0~31.0,51.1db, default 6.0) Max: Maximum noise margin (0.0~31.0,51.1db, default 51.1)																										
Modify	Click on this button to submit the modification																										
Delete	Click on this button to delete a profile																										
Query	Click on this button to display the profiles.																										
OP Mode-N	<p>Click on this button to view/modify allowed ADSL modes of operation for the profile. The following page is displayed.</p> <p>An OP Mode is supported if the check box is selected.</p> <p><i>Modify Status:</i></p> <p>Complete – modems will re-train after you click on Apply button</p> <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">ADSL Spectrum Profile[2] OP Mode</p> <p style="text-align: center;">Modify Status: Complete <input type="button" value="Apply"/> <input type="button" value="BACK"/></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td><input checked="" type="checkbox"/> 0(bit00)ANSI_T1413</td><td><input checked="" type="checkbox"/> 1(bit01)ETSI_DTS_TM06006</td></tr> <tr><td><input checked="" type="checkbox"/> 2(bit02)992.1_A_Pots_NonOverlapped</td><td><input checked="" type="checkbox"/> 3(bit04)992.1_B_Isdn_NonOverlapped</td></tr> <tr><td><input type="checkbox"/> 4(bit06)992.1_C_TcmIsdn_NonOverlapped</td><td><input checked="" type="checkbox"/> 5(bit08)992.2_A_Pots_NonOverlapped</td></tr> <tr><td><input type="checkbox"/> 6(bit10)992.2_C_TcmIsdn_NonOverlapped</td><td><input checked="" type="checkbox"/> 7(bit18)992.3_A_Pots_NonOverlapped</td></tr> <tr><td><input checked="" type="checkbox"/> 8(bit20)992.3_B_Isdn_NonOverlapped</td><td><input type="checkbox"/> 9(bit24)992.4_A_Pots_NonOverlapped</td></tr> <tr><td><input type="checkbox"/> 10(bit28)992.3_I_AllDigital_NonOverlapped</td><td><input type="checkbox"/> 11(bit30)992.3_J_AllDigital_NonOverlapped</td></tr> <tr><td><input type="checkbox"/> 12(bit32)992.4_I_AllDigital_NonOverlapped</td><td><input checked="" type="checkbox"/> 13(bit34)992.3_L_Pots_NonOverlapped_Mode1</td></tr> <tr><td><input checked="" type="checkbox"/> 14(bit35)992.3_L_Pots_NonOverlapped_Mode2</td><td><input type="checkbox"/> 15(bit39)992.3_M_Pots_Extend_US_NonOverlapped</td></tr> <tr><td><input checked="" type="checkbox"/> 16(bit40)992.5_A_Pots_NonOverlapped</td><td><input checked="" type="checkbox"/> 17(bit42)992.5_B_Isdn_NonOverlapped</td></tr> <tr><td><input type="checkbox"/> 18(bit46)992.5_I_AllDigital_NonOverlapped</td><td><input type="checkbox"/> 19(bit48)ANSI_T1424</td></tr> <tr><td><input type="checkbox"/> 20(bit49)ETSI_TS_101_270</td><td><input type="checkbox"/> 21(bit50)993.1</td></tr> <tr><td><input type="checkbox"/> 22(bit51)IEEE_8023ah</td><td><input type="checkbox"/> 23(bit56)992.5_J_AllDigital_NonOverlapped</td></tr> <tr><td><input type="checkbox"/> 24(bit58)992.5_M_Pots_Extend_US_NonOverlapped</td><td></td></tr> </tbody> </table> <p style="text-align: center;">[ADSL Spectrum RFI ADSL Spectrum Carrier Mask]</p> </div>	<input checked="" type="checkbox"/> 0(bit00)ANSI_T1413	<input checked="" type="checkbox"/> 1(bit01)ETSI_DTS_TM06006	<input checked="" type="checkbox"/> 2(bit02)992.1_A_Pots_NonOverlapped	<input checked="" type="checkbox"/> 3(bit04)992.1_B_Isdn_NonOverlapped	<input type="checkbox"/> 4(bit06)992.1_C_TcmIsdn_NonOverlapped	<input checked="" type="checkbox"/> 5(bit08)992.2_A_Pots_NonOverlapped	<input type="checkbox"/> 6(bit10)992.2_C_TcmIsdn_NonOverlapped	<input checked="" type="checkbox"/> 7(bit18)992.3_A_Pots_NonOverlapped	<input checked="" type="checkbox"/> 8(bit20)992.3_B_Isdn_NonOverlapped	<input type="checkbox"/> 9(bit24)992.4_A_Pots_NonOverlapped	<input type="checkbox"/> 10(bit28)992.3_I_AllDigital_NonOverlapped	<input type="checkbox"/> 11(bit30)992.3_J_AllDigital_NonOverlapped	<input type="checkbox"/> 12(bit32)992.4_I_AllDigital_NonOverlapped	<input checked="" type="checkbox"/> 13(bit34)992.3_L_Pots_NonOverlapped_Mode1	<input checked="" type="checkbox"/> 14(bit35)992.3_L_Pots_NonOverlapped_Mode2	<input type="checkbox"/> 15(bit39)992.3_M_Pots_Extend_US_NonOverlapped	<input checked="" type="checkbox"/> 16(bit40)992.5_A_Pots_NonOverlapped	<input checked="" type="checkbox"/> 17(bit42)992.5_B_Isdn_NonOverlapped	<input type="checkbox"/> 18(bit46)992.5_I_AllDigital_NonOverlapped	<input type="checkbox"/> 19(bit48)ANSI_T1424	<input type="checkbox"/> 20(bit49)ETSI_TS_101_270	<input type="checkbox"/> 21(bit50)993.1	<input type="checkbox"/> 22(bit51)IEEE_8023ah	<input type="checkbox"/> 23(bit56)992.5_J_AllDigital_NonOverlapped	<input type="checkbox"/> 24(bit58)992.5_M_Pots_Extend_US_NonOverlapped	
<input checked="" type="checkbox"/> 0(bit00)ANSI_T1413	<input checked="" type="checkbox"/> 1(bit01)ETSI_DTS_TM06006																										
<input checked="" type="checkbox"/> 2(bit02)992.1_A_Pots_NonOverlapped	<input checked="" type="checkbox"/> 3(bit04)992.1_B_Isdn_NonOverlapped																										
<input type="checkbox"/> 4(bit06)992.1_C_TcmIsdn_NonOverlapped	<input checked="" type="checkbox"/> 5(bit08)992.2_A_Pots_NonOverlapped																										
<input type="checkbox"/> 6(bit10)992.2_C_TcmIsdn_NonOverlapped	<input checked="" type="checkbox"/> 7(bit18)992.3_A_Pots_NonOverlapped																										
<input checked="" type="checkbox"/> 8(bit20)992.3_B_Isdn_NonOverlapped	<input type="checkbox"/> 9(bit24)992.4_A_Pots_NonOverlapped																										
<input type="checkbox"/> 10(bit28)992.3_I_AllDigital_NonOverlapped	<input type="checkbox"/> 11(bit30)992.3_J_AllDigital_NonOverlapped																										
<input type="checkbox"/> 12(bit32)992.4_I_AllDigital_NonOverlapped	<input checked="" type="checkbox"/> 13(bit34)992.3_L_Pots_NonOverlapped_Mode1																										
<input checked="" type="checkbox"/> 14(bit35)992.3_L_Pots_NonOverlapped_Mode2	<input type="checkbox"/> 15(bit39)992.3_M_Pots_Extend_US_NonOverlapped																										
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<input type="checkbox"/> 18(bit46)992.5_I_AllDigital_NonOverlapped	<input type="checkbox"/> 19(bit48)ANSI_T1424																										
<input type="checkbox"/> 20(bit49)ETSI_TS_101_270	<input type="checkbox"/> 21(bit50)993.1																										
<input type="checkbox"/> 22(bit51)IEEE_8023ah	<input type="checkbox"/> 23(bit56)992.5_J_AllDigital_NonOverlapped																										
<input type="checkbox"/> 24(bit58)992.5_M_Pots_Extend_US_NonOverlapped																											

(To be continued)

Carrier Mask-N

Click on this button to view/modify the current downstream/upstream Carrier Mask parameters. Input Carrier bit value and then click **Apply**.

Modify Status:

Complete – modems will re-train after you click on Apply button

[ADSL Spectrum Profile# 1 Carrier MASK](#)

Modify Status: **Complete**

DownStream Carrier Mask 0x[00]~0x[FF]								
Carrier[0~63]	00	00	00	00	00	00	00	00
Carrier[64~127]	00	00	00	00	00	00	00	00
Carrier[128~191]	00	00	00	00	00	00	00	00
Carrier[192~255]	00	00	00	00	00	00	00	00
Carrier[256~319]	00	00	00	00	00	00	00	00
Carrier[320~383]	00	00	00	00	00	00	00	00
Carrier[384~447]	00	00	00	00	00	00	00	00
Carrier[448~511]	00	00	00	00	00	00	00	00
UpStream Carrier Mask 0x[00]~0x[FF]								
Carrier[0~63]	00	00	00	00	00	00	00	00

Carriers 0 to 255 are used for all ADSL/ADSL2 operational modes except for ADSL2 Plus which uses carriers 0 to 511.

[[ADSL Spectrum RFI](#) | [ADSL Spectrum OP Mode](#)]

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(To be continued)

Click on this button to view/modify Radio Frequency Interference (RFI) Bands data. Input the Start/Stop frequency, select the Ingress Level, Egress Control, Signal Type, and then click on the **Apply** button.

Modify Status:

Complete – modems will re-train after you click on Apply button

ADSL Spectrum Profile# 1 RFI

Modify Status: Complete

NO.	Start Frequency 0~12000 (kHz)	Stop Frequency 0~12000 (kHz)	Ingress Level	Egress Control	Signal Type
0	0	0	None	NoControl	Neither
1	0	0	None	NoControl	Neither
2	0	0	None	NoControl	Neither
3	0	0	None	NoControl	Neither
4	0	0	None	NoControl	Neither
5	0	0	None	NoControl	Neither
6	0	0	None	NoControl	Neither
7	0	0	None	NoControl	Neither

[| [ADSL Spectrum Carrier Mask](#) | [ADSL Spectrum OP Mode](#)]

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RFI-N

4.4.1.4 Spectrum ADSLx Profile

This option allows you to configure the ADSL2/2⁺/REDSL spectrum profile. From the ADSL menu, click on *Profile* and then *Spectrum Profile(ADSLx)*. The following page is displayed.

ADSL Spectrum Profile - ADSL2

Select Index: <input type="text" value="(1)1~4"/> <input type="button" value="Modify"/> <input type="button" value="Query"/> The First Index is default profile can't modify & delete. To modify Spectrum Adsl2,ReAdsl or Adsl2plus profile , please create spectrum main profile first.							
	Index	Modem Features	Direction	Aggregate Power	PSD Level	PBO	Max Rx Aggr. Allowed PWR
Next →	2	ADSL2	DS	10.0	-40.0	NA	NA
		Enabled	US	10.0	-38.0	OFF	25.5
<input type="radio"/>	1	ADSL2	DS	25.5	-40.0	----	----
		Disabled	US	25.5	-38.0	OFF	25.5
<input type="radio"/>	2	ADSL2	DS	25.5	-40.0	----	----
		Disabled	US	25.5	-38.0	OFF	25.5
<input type="radio"/>	3	----	DS	0.0	0.0	----	----
		----	US	0.0	0.0	----	0.0
<input type="radio"/>	4	----	DS	0.0	0.0	----	----
		----	US	0.0	0.0	----	0.0

ADSL2/ReADSL/ADSL2⁺ Spectrum Profile

Label	Description
Select Index	Click on the drop-down list to select the range of profile index. Options are: 1~4, 5~8, ..., 117~120.
Index	This field shows the profile index.
Modem Features	Select ADSL2/ReADSL2/ADSL2+ and Enable/Disable special modem functions for better performance.
Direction	DS: downstream. US: upstream
Aggregate Power	Maximum nominal aggregate transmit power (0~25.5dB)
PSD Level	Maximum PSD level. Valid values are: ADSL2: -60 ~ -40 dB/Hz DS, -60 ~ -38 dB/Hz US ReADSL2: -60 ~ -37 dB/Hz DS, -60 ~ -32.9 dB/Hz US ADSL2+: -60 ~ -40 dB/Hz DS, -60 ~ -38 dB/Hz US

PSD Shape	<p>Only for ADSL2+. Valid options are:</p> <p>Standard/CA100/CA110/CA120/CA130/CA140/CA150/ CA160CA170/CA180/CA190/CA200/CA210/CA220/CA230/ CA240/CA250/CA260/CA270/CA280</p>
PBO	Power backoff operation mode (OFF/ON).
Max Rx Aggr. Allowed PWR	Maximum aggregate receive power over a set of subcarriers. It ranges from -25.5 to +25.5 dBm, with 0.1 dB steps.

4.4.1.5 TCA Profile

This option allows you to setup the PM counter threshold for TCA (threshold crossing alert). From the *ADSL* menu, click on *Profile* and then *TCA Profile*. The following page is displayed.

ADSL TCA Profile

(1)Page1 of 16
Modify
Delete

The First Index is default profile can't modify & delete.
 An Interval_TCA's value range from 0 to 900 (sec)
 A Day_TCA's value range from 0 to 86400(Sec)
 The int for Interval's(15Minute) TCA and the day for Day's TCA
 The NE for Near_End and the FE for Far_End

Select No	Enable		int ESs	int SESs	int UASs	day ESs	day SESs	day UASs	int LOS	int LOF	int LOPWR	int LOL	int ErrFrm
<input type="checkbox"/>	1	Disabled	NE	0	0	0	0	0	0	0	NA	0	0
			FE	0	0	0	0	0	0	0	0	NA	0
<input type="checkbox"/>	2	Select	NE								NA		
			FE									NA	
<input type="checkbox"/>	3	Select	NE								NA		
			FE									NA	
<input type="checkbox"/>	4	Select	NE								NA		
			FE									NA	

ADSL TCA Threshold setup

Label	Description
(1)Page1 of 16	Click on this drop-down list to select the page to be displayed.
Modify	Once you have typed in new threshold values, click on this button to submit the modification.
Delete	Click on this button to delete a selected profile (or profiles).
Select	Click on the checkbox to select the profile you want to modify or delete.
Enable	To issue TCA when the PM statistics exceed thresholds, this profile must be enabled.
int/day ESs-NE/FE	Interval/Day Errored Seconds – near end/far end
int/day SESs-NE/FE	Interval/Day Severely Errored Seconds – near end/far end
int/day UASs-NE/FE	Interval/Day Unavailable Seconds – near end/far end
int LOS-NE/FE	Interval Loss of Signal – near end/far end
int LOF-NE/FE	Interval Loss of Frame – near end/far end
int LOPWR-FE	Interval Loss of Power – far end

int LOL-NE	Interval Loss of Link – near end
int ErrFrm-NE/FE	Interval Error Frame – near end/far end

4.4.2 Data & Inventory

4.4.2.1 Inventory

This option allows you to view the inventory of the ATUC and ATUR. From the *ADSL* menu, click on *Data & Inventory* and then *Inventory*. The following page is displayed.

[ADSL Inventory](#)

Port(ATUC)	Serial Number	Version Number	System Vendor ID	Modem Vendor ID
1	Broadcom 6411/6510 A0	VE_6_4_7	0x4d54	BDCM
2	Broadcom 6411/6510 A0	VE_6_4_7	0x4d54	BDCM
3	Broadcom 6411/6510 A0	VE_6_4_7	0x4d54	BDCM
4	Broadcom 6411/6510 A0	VE_6_4_7	0x4d54	BDCM
5	Broadcom 6411/6510 A0	VE_6_4_7	0x4d54	BDCM
6	Broadcom 6411/6510 A0	VE_6_4_7	0x4d54	BDCM
7	Broadcom 6411/6510 A0	VE_6_4_7	0x4d54	BDCM
8	Broadcom 6411/6510 A0	VE_6_4_7	0x4d54	BDCM
9	Broadcom 6411/6510 A0	VE_6_4_7	0x4d54	BDCM
10	Broadcom 6411/6510 A0	VE_6_4_7	0x4d54	BDCM
11	Broadcom 6411/6510 A0	VE_6_4_7	0x4d54	BDCM
12	Broadcom 6411/6510 A0	VE_6_4_7	0x4d54	BDCM

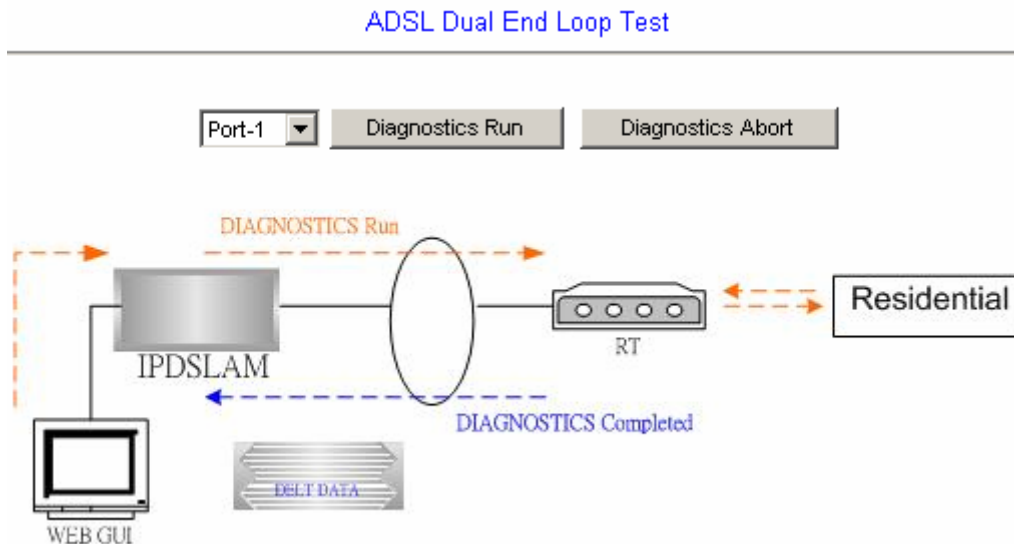
[[Circuit Setup](#) | [System Inventory](#)]

ADSL Inventory

Label	Description
Port 01~12	Click on this drop-down list and select the ports to be displayed.
Atux	Select ATUC or ATUR inventory to be displayed.
Query	To view inventory, click on this button once you have selected the port and ATUx.

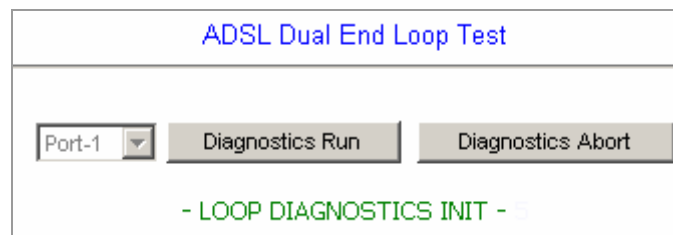
4.4.2.2 Loop Test

This option allows you to do the ADSL Dual End Loop Test. From the *ADSL* menu, click on *Data & Inventory* and then *Loop Test*. The following page is displayed.



Click on the drop-down list and select the line port you want to test. Then click on **Diagnostics Run** to start a DELT. If you want to discontinue the test or make the loop go back to the normal state when the test has finished, just click on **Diagnostics Abort**.

Test in progress: Click on **Diagnostics Run** and then the following page is displayed.



Test completed: When the test has completed successfully, test result is displayed as follows.

ADSL Dual End Loop Test

Port-2 Diagnostics Run Diagnostics Abort

Dual	Attainable BitRate		Loop Attn		Signal Attn		SNR Margin		Actual Tx Power FE	
	Port	DS(kbps)	US(kbps)	DS(db)	US(db)	DS(db)	US(db)	DS(db)	US(db)	DS(db)
2	23039	1242	1.0	0.7	1.0	0.0	7.9	6.0	-3.4	12.3

LOOP DIAGNOSTICS COMPLETED...

Carrier Type: TSS SNR QLN HLIN HLOG

The TSS formula: $tss=value*(1/32768)$.The Transmit Spectrum Shaping for the Downstream direction as exchanged at init.(Near-END)

Carrier	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
0-31	3275	3275	3275	3275	3275	3275	3275	3275	3275	3275	3275	3275	3275	3275	3275	3275	3275	3275	3275	3492	3723	3967	4265	4552	4857	5183	5545	5916	6310	6747	7193	7666
32-63	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768
64-95	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768
96-127	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768
128-159	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768
160-191	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768
192-223	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768
224-255	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768
256-287	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768
288-319	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768
320-351	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768
352-383	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768
384-415	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768
416-447	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768
448-479	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768
480-511	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768

The TSS formula: $tss=value*(1/32768)$.The Transmit Spectrum Shaping for the Upstream direction as exchanged at init.(Far-END)

Carrier	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
0-31	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	
32-63	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	32768	

4.4.2.3 Carrier Data

This option allows you to view the ADSL line carrier data. From the *ADSL* menu, click on *Data & Inventory* and then *Carrier Data*. The following page is displayed.

Select the line port (1 ~ 24) and carrier type (LOAD or GAIN). Then click on **Query** button. Note that if the line port is still in loop testing status, you cannot query the carrier data.

ADSL Carrier Data

Port:	2		Type:	LOAD	<input checked="" type="radio"/> GAIN	<input type="radio"/>	Query																									
The LOAD formula: load=value*(1/256).The bit LOAD distribution over Downstream passband.(Near-END)																																
Carrier	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
0~31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
32~63	0	6	6	7	8	8	9	9	10	10	11	10	11	11	12	12	12	12	13	13	13	13	14	13	14	14	14	14	14	15	14	15
64~95	0	0	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	13	15	15	15	15	15	15	15	15	
96~127	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
128~159	0	0	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
160~191	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
192~223	0	0	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
224~255	14	15	15	15	2	15	15	15	15	15	15	14	15	15	15	15	14	15	15	15	15	14	15	15	15	15	15	15	15	15	14	15
256~287	0	0	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
288~319	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
320~351	0	0	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	14	
352~383	15	15	15	15	15	15	14	15	15	15	15	15	15	14	15	15	15	14	15	15	15	14	15	15	15	14	15	14	15	15	14	15
384~415	0	0	15	14	15	15	14	15	14	15	14	15	14	15	14	15	14	15	14	15	14	15	14	15	14	15	14	14	14	15	14	15
416~447	15	14	14	15	14	15	14	14	15	14	15	14	14	15	14	14	15	14	14	14	15	14	14	15	14	14	14	14	15	14	14	14
448~479	0	0	15	14	14	14	14	14	14	14	14	14	14	14	14	13	14	14	13	14	14	13	14	13	13	14	13	13	13	14	13	13
480~511	13	13	13	13	12	13	12	13	12	12	12	12	12	12	12	11	11	11	10	11	10	10	9	9	9	7	7	6	6	3	2	0
The LOAD formula: load=value*(1/256).The bit load distribution over Upstream passband.(Far-END)																																
Carrier	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
0~31	0	0	0	0	0	0	0	8	9	11	11	12	13	13	14	14	14	14	15	15	15	15	15	15	15	14	14	13	12	11	11	9
32~63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Port:	2	Type:	LOAD <input type="radio"/> GAIN <input checked="" type="radio"/>	Query																													
The GAIN formula: gain=value*(1/512).The GAIN allocation over the Downstream passband.(Near-END)																																	
Carrier	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
0~31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
32~63	0	482	394	469	541	455	541	469	573	496	625	394	496	455	590	541	482	442	590	541	482	455	625	406	541	511	482	469	455	608	418	573	
64~95	573	482	526	496	482	482	469	455	430	442	442	418	418	418	406	418	406	406	406	406	442	469	496	394	406	394	394	394	406	406	406		
96~127	406	406	406	394	406	406	418	406	406	406	406	418	418	418	430	430	430	430	430	430	442	442	442	442	455	455	455	455	469	469	482		
128~159	469	482	482	482	482	482	511	526	482	496	482	496	496	496	482	496	482	496	482	482	469	482	469	482	482	469	469	455	469	455	455		
160~191	455	455	455	455	455	455	455	455	455	469	455	469	455	455	482	469	455	469	455	455	455	469	482	469	469	469	469	469	469	455	469	455	482
192~223	469	469	482	482	482	482	482	496	496	482	496	496	496	496	511	496	511	496	496	496	496	511	511	496	496	526	526	496	526	526	511		
224~255	372	511	526	526	511	511	526	526	526	526	541	372	541	541	526	541	383	541	541	557	526	383	526	541	526	511	526	511	526	526	372	608	
256~287	394	482	482	496	482	482	482	482	496	496	496	496	496	526	496	496	496	496	482	482	482	482	482	482	469	469	469	482	469	469	482	482	
288~319	455	469	482	482	482	482	482	482	482	482	496	496	496	482	496	482	482	496	496	496	496	496	496	496	496	496	496	496	496	496	496	496	
320~351	496	496	511	496	496	511	496	496	496	511	511	511	511	526	511	496	511	511	511	526	511	526	511	511	511	511	511	511	511	526	526	526	383
352~383	526	526	526	541	526	526	383	526	526	526	526	541	526	383	541	541	541	394	541	541	557	383	557	557	541	406	557	406	557	573	406	573	
384~415	557	406	573	406	573	573	418	573	406	590	406	590	418	573	418	590	406	590	418	590	418	608	430	608	430	590	430	430	590	430	608	430	
416~447	608	430	430	608	430	608	430	430	608	442	625	442	442	625	442	442	625	455	442	455	625	455	455	644	455	455	455	469	644	469	469	482	
448~479	482	482	681	496	496	496	511	496	496	496	526	511	541	526	541	383	541	557	406	557	590	418	590	430	430	625	442	455	455	662	482	482	
480~511	496	511	526	541	394	590	418	608	455	469	482	511	541	557	573	442	469	541	418	625	496	557	418	496	541	430	496	469	590	482	394	0	
The GAIN formula: gain=value*(1/512).The gain allocation over the Upstream passband.(Far-END)																																	
Carrier	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
0~31	0	0	0	0	0	0	0	556	444	494	467	465	524	505	556	540	466	431	524	479	453	458	466	481	528	433	527	447	448	513	556	592	
32~63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

4.4.2.4 OP Data

This option allows you to view the ADSL line/channel operational data and carrier data. From the *ADSL* menu, click on *Data & Inventory* and then *OP Data*. The following page is displayed.

Line Operational Data: Click on *ADSL OP Data* drop-down list and select the item *Line (OP)*. Then select the line port (1 ~ 24). Click on **Query** button.

ADSL Line Operational Data

ADSL OP Data: Line (OP) Port-1 Query		
ADSL LINE OP Data	NE US	FE DS
Rel Capacity Occupation	109(%)	100(%)
Noise Margin	3.5(db)	8.0(db)
Signal Attenuation	1.5(db)	0.0(db)
Loop Attenuation	1.8(db)	0.0(db)
ADSL LINE OP Data	NE DS	FE US
Output Power	12.1(dbm)	9.5(dbm)
Actual PSD	-50.0(dbm/Hz)	-38.0(dbm/Hz)
ADSL LINE OP Data	NE	FE
Line Status	Run Showtime L0	N/A
Actual Op Mode	(992.1_A_Pots_NonOverlapped)	N/A
ATUC Op Mode Capabilities	(ANSI_T1413) (ETSI_DTS_TM06006) (992.1_A_Pots_NonOverlapped) (992.1_B_Isdn_NonOverlapped) (992.2_A_Pots_NonOverlapped) (992.3_A_Pots_NonOverlapped) (992.3_B_Isdn_NonOverlapped) (992.3_L_Pots_NonOverlapped_Mode1) (992.3_L_Pots_NonOverlapped_Mode2) (992.3_M_Pots_Extend_US_NonOverlapped) (992.5_A_Pots_NonOverlapped) (992.5_B_Isdn_NonOverlapped) (992.5_M_Pots_Extend_US_NonOverlapped)	(992.1_A_Pots_NonOverlapped) (992.2_A_Pots_NonOverlapped)

Channel Operational Data: Click on *ADSL OP Data* drop-down list and select the item *Channel (OP)*. Then select the port (1~24). Click on **Query** button. The following page is displayed.

ADSL Channel Operational Data

ADSL OP Data: Channel(OP) ▾ Port-1 ▾ Query		
ADSL LINE OP Data	NE US	FE DS
Actual Bitrate(kbps)	1120	8128
Attainable Bitrate(kbps)	1024	8128
ADSL LINE OP Data	NE DS	FE US
Actual Interleaving Delay(ms)	0	0
Actual Impulse Noise Protection(Symbol)	0.0	0.0

4.4.3 Line Config & Info

4.4.3.1 Line Configuration

This option allows you to setup the ADSL line configuration. From the *ADSL* menu, click on *Line Config & Info* and then *Line Configuration*. The following page is displayed.

ADSL Line Configuration

ADSL Port from to

Operational Mask Mode: (0)ANSI_T1413
 (1)ETSI_DTS_TM06006
 (2)992.1_A_Pots_NonOverlapped

Carrier Data Mode: (1)OFF

FORCE L3 Mode: (0)OFF

ADSL Port from to

Port	OP MASK ID	Op Mode Board Capability	Carrier Data	Loop Diagnostics	Force L3 Mode
1	ANSI_T1413 ETSI_DTS_TM06006 992.1_A_Pots_NonOverlapped 992.1_B_Isdn_NonOverlapped 992.2_A_Pots_NonOverlapped 992.3_A_Pots_NonOverlapped 992.3_B_Isdn_NonOverlapped 992.3_L_Pots_NonOverlapped_Mode1 992.3_L_Pots_NonOverlapped_Mode2 992.3_M_Pots_ExtUS_NonOverlapped 992.5_A_Pots_NonOverlapped 992.5_B_Isdn_NonOverlapped 992.5_M_Pots_ExtUS_NonOverlapped		OFF	OFF	OFF

ADSL Line Configuration

Label	Description
ADSL Port From...To...	Type in the line port range. Valid number: 1 ~ 24.
Operational Mask Mode	Select the Operational Mode(s) to be masked. Select the modes in the block by using mouse and Shift or Ctrl key. Select the check box and then click on Modify button.
Carrier Data Mode	<p>Click on this drop-down list and select the carrier data mode.</p> <p>Select the check box and then click on Modify button.</p> <p>OFF - Carrier data won't vary during show time.</p> <p>ON - Carrier data collection is active. The carrier data will be refreshed during show time.</p> <p>ON INIT - The ADSL facility is re-initialized and carrier data collection is active (will be refreshed).</p>

FORCE L3 Mode	Click on this drop-down list and select ON to force the ADSL port to enter power management L3 mode (Idle state). Select the check box and then click on Modify button.
Modify	Click on this button to submit modification.
Query	Click on this button to display current line configuration.

4.4.3.2 Line Information

This option allows you to setup the ADSL line information. From the *ADSL* menu, click on *Line Config & Info* and then *Line Information*. The following page is displayed.

ADSL Line Information

ADSL Port from 1 To 5			
<input type="button" value="Modify"/>		<input type="button" value="Query"/>	
Port	Identifier	Phone No	Description
<input checked="" type="checkbox"/> 1	ADSL-1	886-32826433	Mak Office
<input type="checkbox"/> 2			
<input type="checkbox"/> 3			
<input type="checkbox"/> 4			
<input type="checkbox"/> 5			

ADSL Line Information

Label	Description
ADSL Port From...To...	Type in the line port range. Valid number: 1~24.
Modify	Click on this button to submit the modification once you have entered new value for the ADSL line information. Note that to modify an entry, you must select the checkbox on the leftmost column before you click on Modify.
Query	Once you have typed in the port number range, click on this button to display line information of these ports.
Identifier	Type in the ADSL line identifier. Up to 63 characters is allowed.
Phone No	Type in the phone number. Up to 63 characters is allowed.
Description	Type in any comment of this line. Up to 63 characters is allowed.

4.5 Traffic

4.5.1 ATM Traffic Descriptor

This option allows you to modify the traffic table. From the *Traffic* menu, click on *ATM Traffic Descriptor*. The following page is displayed:

ATM Traffic Descriptor

PCR	CDVT	SCR	MBS	TYPE			
20000	10000	0	0	Policed			
Descriptor: (2) [Policed CBR]atm<CLP> <Transparent> [NoSCR] Create							
Delete							
Delete Select	Row No.	ATM Traffic Descriptor	PCR	CDVT	SCR	MBS	TYPE
<input type="radio"/>	DEF	[Unshaped]atmNoTrafficDescriptor	0	0	0	0	SHAPED
[ADSL PVC CONFIGURATION]							

ATM Traffic Descriptor Setup

Label	Description
PCR	PCR stands for Peak Cell Rate (cells/second).
CDVT	CDVT stands for Cell Delay Variation Tolerance (microseconds).
SCR	SCR stands for Sustained Cell Rate (cells/second).
MBS	MBS stands for Maximum Burst Size (cells).
TYPE	This field will show Shaped or Policed depending on the descriptor type you select.
Descriptor	<p>Click on this drop-down list and select a descriptor type. After you select a descriptor type, the corresponding parameters (which are configurable) will be displayed on the top. Valid descriptor types are:</p> <p>[Unshaped] atmNoTrafficDescriptor:</p> <p>This identifies no ATM traffic descriptor type. This traffic descriptor type can be used for best effort traffic.</p> <p>[Policed CBR] atmCLPTransparentNoScr /</p> <p>[Shaped CBR] atmCLPTransparentNoScr:</p> <p>This traffic descriptor type is for the CLP- transparent model and no Sustained Cell Rate. This traffic descriptor type is applicable to connections following the CBR.1 conformance definition. Connections specifying this traffic descriptor type will be rejected at UNI 3.0 or UNI 3.1</p>

interfaces. For a similar traffic descriptor type that can be accepted at UNI 3.0 and UNI 3.1 interfaces, see "atmNoClpNoScr".

[Policed VBR1] atmNoCLPScrCdv:

This traffic descriptor type is for no CLP with Sustained Cell Rate and CDVT. This traffic descriptor type is applicable to VBR connections following the UNI 3.0/3.1 conformance definition for PCR CLP=0+1 and SCR CLP=0+1. These VBR connections differ from VBR.1 connections in that the CLR objective applies only to the CLP=0 cell flow.

[Policed VBR2] atmCLPNoTaggingScrCdv /

[Shaped VBRNRT] atmCLPNoTaggingScrCdv:

This traffic descriptor type is for CLP with Sustained Cell Rate and CDVT and no tagging. This traffic descriptor type is applicable to connections following the VBR.2 conformance definition.

[Policed VBR3] atmCLPTaggingScrCdv:

This traffic descriptor type is for CLP with tagging and Sustained Cell Rate and CDVT. This traffic descriptor type is applicable to connections following the VBR.3 conformance definition.

[Policed UBR1] atmNoCLPNoScrCdv:

This traffic descriptor type is for no CLP with CDVT and no Sustained Cell Rate. This traffic descriptor type is applicable to

CBR connections following the UNI 3.0/3.1 conformance definition for PCR CLP=0+1. These CBR connections differ from CBR.1 connections in that the CLR objective applies only to the CLP=0 cell flow. This traffic descriptor type is also applicable to connections following the UBR.1 conformance definition.

[Policed UBR2] atmNoCLPTaggingNoScr:

This traffic descriptor type is for no CLP with tagging and no Sustained Cell Rate. This traffic descriptor type is applicable to connections following the UBR.2 conformance definition.

[Shaped UBR] atmNoCLPNoScr:

This traffic descriptor type is for no CLP and no Sustained Cell Rate

[Shaped VBR] atmCLPTransparent:

This traffic descriptor type is for the CLP- transparent model with Sustained Cell Rate. This traffic descriptor type is applicable to connections following the VBR.1 conformance definition. Connections specifying this traffic descriptor type will be rejected at UNI 3.0 or UNI 3.1 interfaces. For a similar traffic descriptor type that can be accepted at UNI 3.0 and UNI 3.1 interfaces, see "atmNoClpScr".

Create	Click on this button to create a new traffic descriptor.
Delete	When you want to delete a traffic descriptor, click on the radio button beside the row number to select the traffic descriptor and then click on the Delete button. Note that the default profile cannot be deleted.

4.6 SNMP

4.6.1 SNMP Community

This option allows you to configure the SNMP community that is the group that IDL-2402s and management stations running SNMP belong to. It helps define where information is sent. The community name is used to identify the group and serve as form of authentication. From the *SNMP* menu, click on *SNMP Community*. The following page is displayed.

SNMP Community

Select modify/delete	No.	Community Name	Access Mode
<input type="checkbox"/>	1	public	Read/Write

SNMP Community Setup

Label	Description
New	<p>Click on this button to create a new SNMP community. After you click on New, the following page is displayed. Type in the name of the SNMP community (up to 63 characters; note that community names beginning with a digital number are not allowed) and select the access mode (Read only or Read/Write). Then click on Apply button.</p> <p style="text-align: center;">SNMP Community</p>
Access Mode	Select the SNMP community access mode: Read only or Read/Write.
Modify	Click on this button to modify the community name.
Delete	Select an index and then click on this button to delete a community.

4.6.2 SNMP Target

This option allows you to configure the SNMP target to control where the SNMP traps (notifications) are sent. Traps are used to report an alarm or other asynchronous event about a managed IDL-2402 system. From the *SNMP* menu, click on *SNMP Target*. The following page is displayed.

SNMP Target

Next No.[2]	<input type="button" value="New"/>
Target No:	No.1 (Addr:192.168.7.243) <input type="button" value="Query"/> <input type="button" value="Delete"/> <input type="button" value="Modify"/>
No.1	
IP Address	192 . 168 . 7 . 243
Target Name	123
Target Tag	123_Tag
Address Port	162
Trap Version	V1 <input type="radio"/> V2c <input checked="" type="radio"/>

SNMP Community Setup

Label	Description
New	Click on this button to create a new SNMP target. After you click on New, the following page is displayed. Type in the IP Address, Name and Tag of the SNMP target, Address Port (Usually SNMP uses UDP port 161 for general SNMP messages and UDP port 162 for SNMP trap messages), and select Trap Version (V1 or V2c). Then click on Apply button. The Target Tag can be the same with a Notify Tag; you can select the Notify Tag in the Use Notify Tag field. The Notify Tag is created in the SNMP Notify table (see next section). When the Target Tag is the same with a Notify Tag, the SNMP notification with that Notify Tag is sent to the Target with the same tag.

	<div style="text-align: center; color: blue;">SNMP Target</div> <hr/> <div style="border: 1px solid gray; padding: 5px;"> <div style="display: flex; justify-content: space-between; border-bottom: 1px solid gray;"> Apply Back </div> <table style="width: 100%; border-collapse: collapse;"> <tr style="background-color: #e1f5fe;"> <td style="width: 20%;">To be created No.</td> <td>No.1</td> </tr> <tr> <td>Target Address</td> <td>0 . 0 . 0 . 0</td> </tr> <tr> <td>Target Name</td> <td>SnmpTargetName1</td> </tr> <tr> <td>Target Tag <input checked="" type="radio"/></td> <td>SnmpTargetList1</td> </tr> <tr> <td>Address Port</td> <td>162</td> </tr> <tr> <td>Trap Version</td> <td>V1 <input type="radio"/> V2c <input checked="" type="radio"/></td> </tr> <tr> <td>Use Notify Tag <input type="radio"/></td> <td> <div style="border: 1px solid gray; padding: 2px;"> <p>===== Related SNMP NOTIFY TAG =====</p> <p>(1)123_Tag</p> <p>(2)abc_Tag</p> </div> </td> </tr> </table> </div>	To be created No.	No.1	Target Address	0 . 0 . 0 . 0	Target Name	SnmpTargetName1	Target Tag <input checked="" type="radio"/>	SnmpTargetList1	Address Port	162	Trap Version	V1 <input type="radio"/> V2c <input checked="" type="radio"/>	Use Notify Tag <input type="radio"/>	<div style="border: 1px solid gray; padding: 2px;"> <p>===== Related SNMP NOTIFY TAG =====</p> <p>(1)123_Tag</p> <p>(2)abc_Tag</p> </div>
To be created No.	No.1														
Target Address	0 . 0 . 0 . 0														
Target Name	SnmpTargetName1														
Target Tag <input checked="" type="radio"/>	SnmpTargetList1														
Address Port	162														
Trap Version	V1 <input type="radio"/> V2c <input checked="" type="radio"/>														
Use Notify Tag <input type="radio"/>	<div style="border: 1px solid gray; padding: 2px;"> <p>===== Related SNMP NOTIFY TAG =====</p> <p>(1)123_Tag</p> <p>(2)abc_Tag</p> </div>														
Target No.	Click on this drop-down list and select the SNMP target number.														
Query	Select the target number and then click on this button to retrieve the information.														
Delete	Select the target number and then click on this button to delete a target.														
Modify	Select the target number and then click on this button to modify the target setting.														

4.6.3 SNMP Notify

This option allows you to setup the SNMP Notification (In SNMPv1, asynchronous event reports are called traps while they are called notifications in later versions of SNMP). From the *SNMP* menu, click on *SNMP Notify*. The following page is displayed.

SNMP Notify

Next No:[3]

Delete/Modify Notify No:

Select modify/delete	Notify#	Notify Name	Notify Tag
<input checked="" type="radio"/>	No.1	123	<input type="text" value="123_Tag"/>
<input type="radio"/>	No.2	abc	abc_Tag

Table 0-2 SNMP Community Setup

Label	Description						
Notify No.	This field shows the Notify number you select.						
New	<p>Click on this button to create a new SNMP Notify. After you click on New, the following page is displayed. Type in the name and tag of the SNMP Notify and click on Apply button.</p> <p>By specifying the Notify tag, you can bind the Notify name to the SNMP target address table. When the Notify tag is the same with the Target Tag in a SNMP target table (refer to previous section), the notification is sent to the corresponding Target address.</p> <p style="text-align: center;">SNMP Notify</p> <hr/> <div style="border: 1px solid #ccc; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: right;"><input type="button" value="Apply"/> <input type="button" value="Back"/></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #e1f5fe;"> <th colspan="2" style="text-align: left;">SNMP Notify No.3</th> </tr> </thead> <tbody> <tr> <td style="width: 20%;">Notify Name</td> <td><input type="text" value="SnmNotifyName3"/></td> </tr> <tr> <td>Notify Tag</td> <td><input type="text" value="SnmNotifyTag3"/></td> </tr> </tbody> </table> </div>	SNMP Notify No.3		Notify Name	<input type="text" value="SnmNotifyName3"/>	Notify Tag	<input type="text" value="SnmNotifyTag3"/>
SNMP Notify No.3							
Notify Name	<input type="text" value="SnmNotifyName3"/>						
Notify Tag	<input type="text" value="SnmNotifyTag3"/>						
Delete	Select a row and then click on this button to delete a Notify.						
Modify	Select the row and type in new notify tag and then click on this button to submit the modification.						

4.7 Maintenance

4.7.1 SYS Log Server

This option allows you to configure the IP address of the SYS Log server which listens for incoming Syslog messages. From the *Maintenance* menu, click on *SYS Log Server*. The following page is displayed.

System Log Server

Modify Action: Stop ▼

Change Server Address 192 . 168 . 1 . 1

SYS Log Server Setup

Label	Description
Current Server IP	This field shows the IP address of current Sys Log server.
Change Server Address	Type in the new IP address of Sys Log server. The server must be a remote host.
Modify	To change SYS Log server address, click on this button once you have type in a new server IP address.
Action	Click on this drop-down list and select Start to start sending the Syslog messages to the server or Stop to stop sending the Syslog messages to the server.

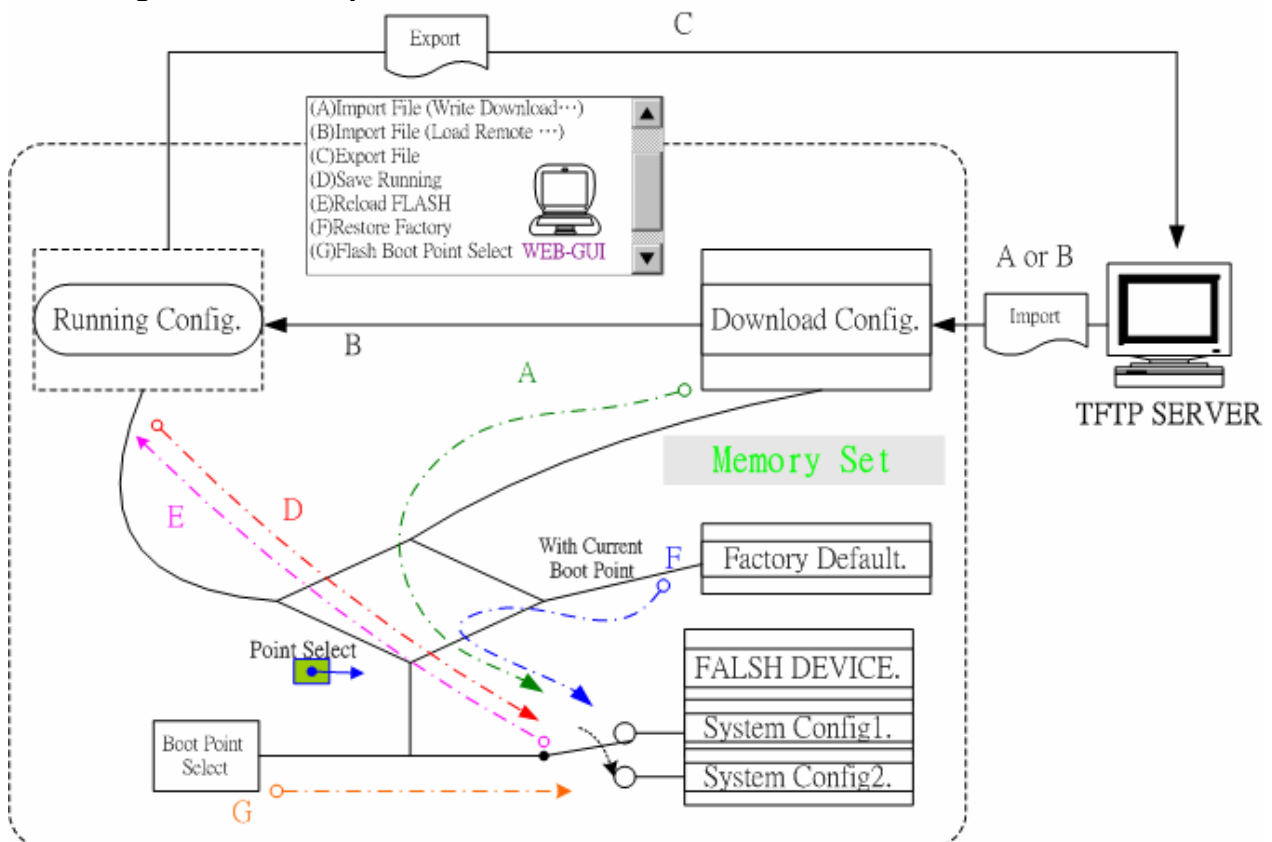
4.7.2 Database

This option allows you to import/export the configuration data. From the *Maintenance* menu, click on *Database*. The following page is displayed. Select the database configuration action you want to perform.

Database Configuration

DB Config Select: [Select]
(A) Import File (Write Download Config To FLASH)
(B) Import File (Load Remote Config to Running Config)
(C) Export File (Put Running Config To Remote TFTP Server)
(D) Save Running Config to Flash (System Config)
(E) Reload FLASH (System Config) to Running Config
(F) Restore Factory Default
(G) Flash Boot Point Configuration Select

DB Configuration Concept:



(A) Import File (Write Download Config To Flash):

Type in the TFTP Server IP address and the name of the file you want to download. Then click on **Get File** button.

[Database Configuration](#)

DB Config Select:	(A)Import File (Write Download Config To FLASH)	▼	
Write flash at:	Partition2	▼	
TFTP Server IP:	172.16.10.241	File Name: config1	Get File

Write downloaded Config to Flash in progress:

[Database Configuration](#)

DB Config Select:	(A)Import File (Write Download Config To FLASH)	▼	
Write flash at:	Partition2	▼	
TFTP Server IP:	172.16.10.241	File Name: config1	Get File
Action Name	WRITE_DOWNLOAD		
Action Status	MEMORY WRITE IN PROGRESS		

Write to memory successfully:

[Database Configuration](#)

DB Config Select:	(A)Import File (Write Download Config To FLASH)	▼	
Write flash at:	Partition2	▼	
TFTP Server IP:	172.16.10.241	File Name: config1	Get File
Action Name	WRITE_DOWNLOAD		
Action Status	MEMORY WRITE SUCCESS		

Fail to Get File:

DB Config Select:	(A)Import File (Write Download Config To FLASH)	▼	
Write flash at:	Partition2	▼	
TFTP Server IP:	172.16.10.28	File Name: config1	Get File
Action Name	GET_LOCAL		
Action Status	TFTP GET FAIL		

(B) Import File (Load Remote Config to Running Config)

Type in the TFTP Server IP address and the name of the file you want to download. Then click on **Get File** button.

[Database Configuration](#)

DB Config Select:	(B)Import File (Load Remote Config to Running Config)	
TFTP Server IP:	172.16.10.241	File Name: config1
		<input type="button" value="Get File"/>

Load to Running Config successfully:

[Database Configuration](#)

DB Config Select:	(B)Import File (Load Remote Config to Running Config)	
TFTP Server IP:	172.16.10.241	File Name: config1
		<input type="button" value="Get File"/>
Action Name	LOAD_REMOTE	
Action Status	MEMORY READ SUCCESS	

Fail to Get File:

[Database Configuration](#)

DB Config Select:	(B)Import File (Load Remote Config to Running Config)	
TFTP Server IP:	172.16.10.28	File Name: config1
		<input type="button" value="Get File"/>
Action Name	GET_LOCAL	
Action Status	TFTP GET FAIL	

(C) Export File (Put Running Config to Remote TFTP Server)

Type in the TFTP Server IP address and the name of the file you want to export. Then click on **Put File** button.

[Database Configuration](#)

DB Config Select: (C)Export File (Put Running Config To Remote TFTP Server) ▼		
TFTP Server IP: 172.16.10.241	File Name: config1	Put File

TFTP put file successfully:

[Database Configuration](#)

DB Config Select: (C)Export File (Put Running Config To Remote TFTP Server) ▼		
TFTP Server IP: 172.16.10.241	File Name: config1	Put File
Action Name	PUT_REMOTE	
Action Status	TFTP PUT SUCCESS	

TFTP put file fail:

[Database Configuration](#)

DB Config Select: (C)Export File (Put Running Config To Remote TFTP Server) ▼		
TFTP Server IP: 172.16.10.28	File Name: config1	Put File
Action Name	PUT_REMOTE	
Action Status	TFTP PUT FAIL	

(D) Save Running Config to Flash (System Config)

Click on the drop-down list and select partition, and then click on **Write_Running** button to write running configuration to Flash.

Database Configuration

DB Config Select:	(D)Save Running Config to Flash(System Config)	
Write flash at:	Partition2	Write_Running

Write running config to Flash successfully:

Database Configuration

DB Config Select:	(D)Save Running Config to Flash(System Config)	
Write flash at:	Partition2	Write_Running
Action Name	WRITE_RUNNING	
Action Status	MEMORY WRITE SUCCESS	

(E) Reload Flash to Running Config

Click on the drop-down list and select partition, and then click on **LOAD_FLASH** button to load configuration from Flash to Running Config.

Database Configuration

DB Config Select:	(E)Reload FLASH(System Config) to Running Config	
Load flash at:	Partition2	LOAD_FLASH

Load configuration from Flash to Running Config successfully:

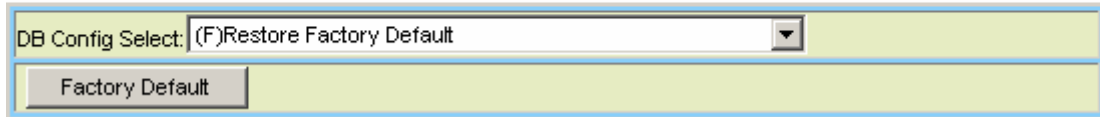
Database Configuration

DB Config Select:	(E)Reload FLASH(System Config) to Running Config	
Load flash at:	Partition2	LOAD_FLASH
Action Name	LOAD_FLASH	
Action Status	MEMORY READ SUCCESS	

(F) Restore Factory Default

Click on **Factory_Default** button to restore factory default configuration.

Database Configuration

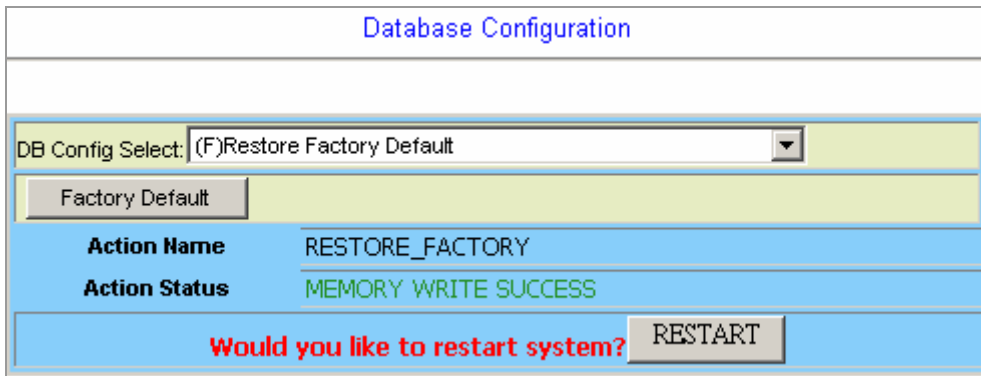


DB Config Select: (F)Restore Factory Default

Factory Default

After loading default configuration to Flash successfully, you must click on **RESTART** button to restart the system so that the configuration can take effect.

Database Configuration



DB Config Select: (F)Restore Factory Default

Factory Default

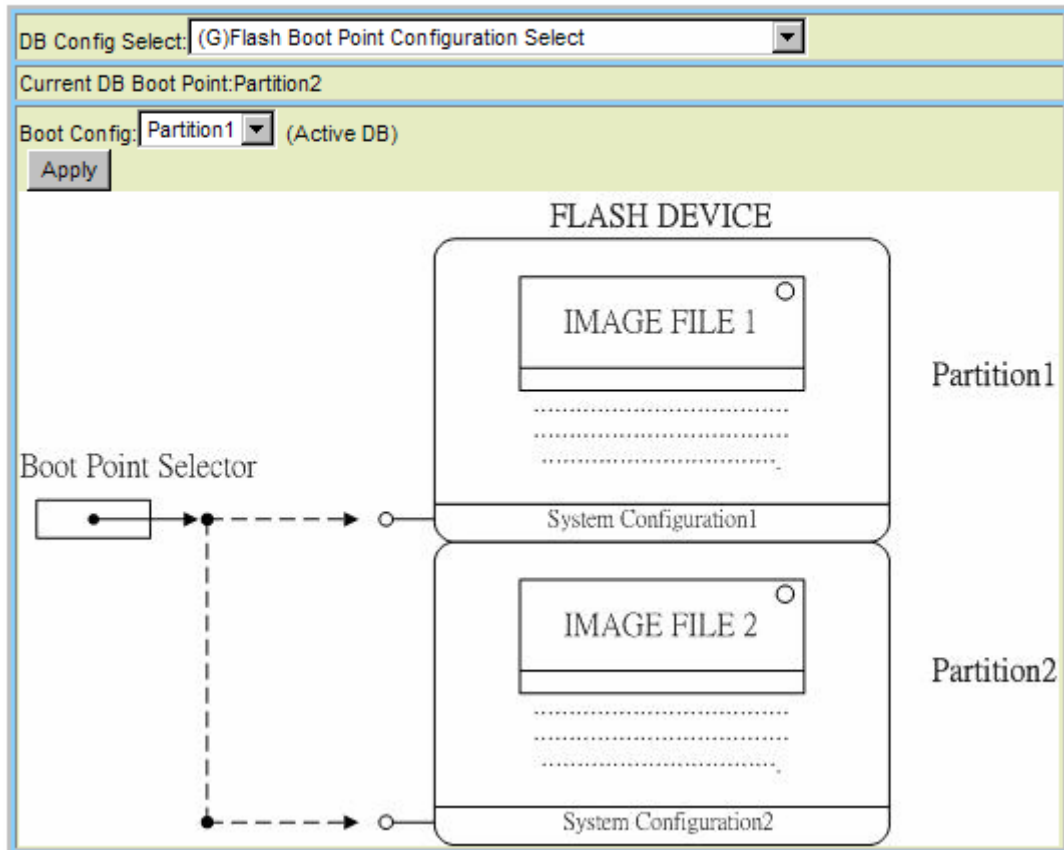
Action Name	RESTORE_FACTORY
Action Status	MEMORY WRITE SUCCESS

Would you like to restart system? RESTART

(G) Flash Boot Point Configuration Select

Click on the *Boot Config* drop-down list and select the partition (Partition1 or Partition2) as the boot point. Click on **Apply** button and then restart the system. The system will restart and load the configuration in the partition you select into the running configuration.

Database Configuration



4.7.3 Firmware Update

This option allows you to ftp get the firmware from a server and write to flash for updating the system firmware. From the *Maintenance* menu, click on *Firmware Update*. The following page is displayed.

Firmware Update			
Remote FTP Server IP	172 . 16 . 10 . 219 ; 21		
Server User Name	[share]		
Server Password	[*****]		
File Name	[vmlinux_u2402_1.00B0]		
Firmware Update Status No Action[0]			
Firmware Partition Select: <input type="button" value="Partition 2"/>			
Once system has 2 versions, an operator can use Partition Select from 1 to 2, vice versa. (e.g)Partition changes from version A.a to version B.b			
Partition Location	Version	Build Date	Status
Partition:1	1.00B05	2008/6/18	----
Partition:2	1.00B05	2008/8/29	Active
Current Version	1.00B05		
1.[Warning]Upgrading firmware may take a few minutes, please don't turn off or reset the system.			
2.Once the system has upgraded already, please restart it!			

Firmware Update

Label	Description
Firmware Update	Once you have typed in the parameter values, click on this button to start firmware update.
Remote FTP Server IP	Type in the IP address of the FTP server.
Server User Name	Type in the ftp user name.
Server Password	Type in the ftp password.
File Name	Type in the firmware filename.
Firmware Update Status	This field shows current status of firmware update process.
Firmware Partition Select	Select firmware memory partition (Partition 1 or 2). If you change to the other partition (not current partition), the system will restart immediately.

Partition Information	This section displays the partition information including firmware version, updating date, and status (active or not). Note that active partition means the partition for next power-up, not current partition in use. You can refer to Current Version to know which partition is the current partition in use. When you update the firmware, new firmware will be written to the partition that is not currently in use.
------------------------------	---

FTP Get in progress:

The following message is displayed during getting file from FTP server.

```
incoming cluster id 0
FTP SERVER IP=172.16.10.219
Waiting for FTP Session (about 30 sec..)
```

Firmware Write in progress:

The Flash Write process may take a few minutes; **you must not turn off or reset the system during the process.**

Current Service	share@172.16.10.219, vmlinux u2402 1.00B05
Firmware Update Status	- FLASH WRITE IN PROGRESS -
	1.[Warning]Upgrading firmware may take a few minutes, please don't turn off or reset the system.
	2.Once the system has upgraded already, please restart it!

Firmware Write successfully:

When the Flash Write process has completed successfully, the Firmware Update Status shows “Firmware has upgraded already”. You can now restart the system.

Firmware Update

Firmware Update			
Remote FTP Server IP ; 21		
Server User Name	[]		
Server Password	[]		
File Name	[]		
Firmware Update Status	Firmware has upgraded already[7]		
Firmware Partition Select:	Partition 2 ▼		
Once system has 2 versions, an operator can use Partition Select from 1 to 2, vice versa. (e.g)Partition changes from version A.a to version B.b			
Partition Location	Version	Build Date	Status
Partition:1	1.00B05	2008/6/18	-----
Partition:2	1.00B05	2008/8/29	Active
Current Version	1.00B05		
1.[Warning]Upgrading firmware may take a few minutes, please don't turn off or reset the system.			
2.Once the system has upgraded already, please restart it!			

4.7.4 ATM Loopbacks

This option allows you to modify the ATM F4/F5 entries or send the diagnostic entry. From the *Maintenance* menu, click on *ATM Loopbacks*. The following page is displayed:

[ATM Loopback](#)

OAM Cell Generation Disabled: <input checked="" type="radio"/> Enabled: <input type="radio"/> <input type="button" value="Apply"/>							
Port 01~12 <input type="button" value="Create"/> <input type="button" value="Query"/> <input type="button" value="Delete"/>							
Select	Port	LoopBack ID				Test Type	Status
<input checked="" type="checkbox"/>	ADSL Port1-PVC1	00000000	00000000	00000000	00000000	F5 E2E <input type="button" value="v"/>	FAIL
<input type="checkbox"/>	ADSL Port2-PVC1	00000000	00000000	00000000	00000000	--Select-- <input type="button" value="v"/>	----
<input type="checkbox"/>	ADSL Port3-PVC1	00000000	00000000	00000000	00000000	--Select-- <input type="button" value="v"/>	----
<input type="checkbox"/>	ADSL Port4-PVC1	00000000	00000000	00000000	00000000	--Select-- <input type="button" value="v"/>	----
<input type="checkbox"/>	ADSL Port5-PVC1	00000000	00000000	00000000	00000000	--Select-- <input type="button" value="v"/>	----
<input type="checkbox"/>	ADSL Port6-PVC1	00000000	00000000	00000000	00000000	--Select-- <input type="button" value="v"/>	----

ATM Loopbacks Setup

Label	Description
OAM Cell Generation	Click on the radio button to Disable/Enable OAM Cell Generation. Then click on Apply button to submit the setting.
Port 01~12 <input type="button" value="v"/> PVC-1 <input type="button" value="v"/>	Click on the drop-down lists to select port range and PVC (1 ~ 8).
Create	Click on this button to create a loopback setting. <i>Note:</i> make sure the interface has been setup and the service state of the circuit is turned on.
Query	Click on this button to query the loopback status.
Delete	Click on this button to delete a loopback entry.
Select	Click on the checkbox to select the PVC you want to create or delete the loopback setting for.
Port	This field shows the line port and PVC number.
LoopBack ID	Type in a loopback ID (32 digit).
Test Type	Select the loopback type: F5 E2E or F5 Segment.
Status	This field shows current loopback testing status. Possible values are: Fail, Success, In Progress, or ----.

4.7.5 Fault Management

4.7.5.1 Alarm/Event

This option allows you to query current alarm, history alarm, and event log. From the *Maintenance* menu, click on *Fault Management* and then *Alarm/Event*. The *Current Alarm* page is displayed. Click on the *Alarm/Event Select* drop-down list and select Current Alarm, History Alarm, or Event Log to view.

Current Alarm:

Type in the range of rows (1 ~ 1024) and then click on the **Query** button.

Current Alarm

Alarm/Event Select Current Alarm						
Row Form <input style="width: 40px;" type="text" value="1"/> To <input style="width: 40px;" type="text" value="2"/>						
No range from 1 to 1024 <input style="margin-left: 20px;" type="button" value="Query"/>						
Row	ID	Description	Level	State	Sequential	Time
1	116	[NT-SLOT]SYS_FAN	MN	Set	1	2008/06/04 01:44:28
2	117	[NT-SLOT]SYS_FAN	MN	Set	2	2008/06/04 01:44:28

Current Alarm Table

Label	Description
Query	Click on this button to get most recent data.
Row	This field shows the row number.
ID	This field shows the alarm ID.
Description	This field shows the description for the alarm.
Level	This field shows the alarm level. Valid values are: MJ: major alarm. MN: minor alarm.
State	This field shows the alarm state: Set or Clear.
Sequential	Sequential number.
Time	Alarm occurring date and time.

History Alarm:

History Alarm

Alarm/Event Select History Alarm						
<input type="button" value="Query"/> <input type="button" value="Clear History"/>						
Row	ID	Description	Level	State	Sequential	Time
71	620	[Port:17],ADSL_NOPEER_FE	MN	Set	327	2008/06/23 04:23:49
70	620	[Port:48],ADSL_NOPEER_FE	MN	Set	326	2008/06/23 04:23:49
69	620	[Port:47],ADSL_NOPEER_FE	MN	Set	325	2008/06/23 04:23:49

History Alarm Table

Label	Description
Query	Click on this button to query history alarms.
Clear History	Click on this button to clear the alarm history table.
Row	This field shows the row number.
ID	This field shows the alarm ID.
Description	This field shows the description for the alarm.
Level	This field shows the alarm level. Valid values are: MJ: major alarm. MN: minor alarm.
State	This field shows the alarm state: Set or Clear.
Sequential	Sequential number.
Time	Alarm occurring date and time.

Event Log:

Type in the range of rows and then click on the **Query** button.

Event Log

Row	ID	Description	Sequential	Time
0	14	[System]TRUNK_CARD_SOFTWARE_ACO_BUTTON_CLEAR	2	2008/04/02 03:47:33
1	1	TRUNK_CARD_RESTART	1	2008/04/02 03:47:33

Event Log

Label	Description
Query	Click on this button to query most recent event log.
Clear Event	Click on this button to clear the event log.
Row	This field shows the row number.
ID	This field shows the event ID.
Description	This field shows the description for the event.
Sequential	Sequential number.
Time	Event occurring date and time.

4.7.5.2 Alarm Profile

This option allows you to view and update the alarm profiles. From the *Maintenance* menu, click on *Fault Management* and then *Alarm profile*. The *Alarm Profile* page is displayed. Click on the *Select Page* drop-down list and select a page to display.

To modify an alarm profile, click on the radio button beside the alarm ID, select the Level (Major/Minor), Mask/Unmask, and then click on the **Modify** button. You can also select the *ALL ID* checkbox to modify all alarm types at a time.

Alarm Profile

Select Page: ---Page 1 of 1---							
Selected Alarm ID: [104 SYS_FAN]							
Level: MINOR		UnMask		ALL ID: <input type="checkbox"/>		Modify	
ID	Type	Level	Mask	ID	Type	Level	Mask
<input checked="" type="radio"/> 104	SYS_FAN	MN	UnMask	<input type="radio"/> 105	SYS_SELFTESTFAILED	MN	UnMask
<input type="radio"/> 106	SYS_ABOVETEMP	MN	UnMask	<input type="radio"/> 107	SYS_BELOWTEMP	MN	UnMask
<input type="radio"/> 118	SYS_DSP	MN	UnMask	<input type="radio"/> 601	ADSL_LOS	MN	UnMask
<input type="radio"/> 602	ADSL_LOF	MN	UnMask	<input type="radio"/> 603	ADSL_LOM	MN	UnMask
<input type="radio"/> 610	ADSL_LCD	MN	UnMask	<input type="radio"/> 612	ADSL_NCD	MN	UnMask
<input type="radio"/> 613	ADSL_LOS_FE	MN	UnMask	<input type="radio"/> 614	ADSL_LOF_FE	MN	UnMask
<input type="radio"/> 615	ADSL_LOM_FE	MN	UnMask	<input type="radio"/> 616	ADSL_LOPWR_FE	MN	UnMask
<input type="radio"/> 619	ADSL_COMMF_FE	MN	UnMask	<input type="radio"/> 620	ADSL_NOPEER_FE	MN	UnMask
<input type="radio"/> 622	ADSL_LCD_FE	MN	UnMask	<input type="radio"/> 624	ADSL_NCD_FE	MN	UnMask

4.7.5.3 Hardware Temperature

This page allows you to:

- view current system temperature
- set several temperature and time thresholds (see description in the following table)

From the *Maintenance* menu, click on *Fault Management* and then *Hardware Temp*. The following page is displayed:

Temperature Threshold

Modify						
Current Temperature (°C)	Up Shift Threshold (°C)	Up Shift Time (Sec)	Down Shift Threshold (°C)	Down Shift Time (Sec)	Fan ON Threshold (°C)	Fan Shift Time (Sec)
70	65	10	-40	10	-40	64590
If current temperature exceeds/descends Up/Down Shift Threshold, Alarm Manager will declare that there is a high/lower temperature alarm after Up/Down ShiftTime seconds.						
[ALARM/EVENT]						

Temperature Configuration

Label	Description
Modify	Click on this button to submit the update once you have entered all the new threshold values.
Current Temperature (°C)	This field shows the current system temperature.
Up Shift Threshold (°C)	The system will produce notification (alarm) when the monitored system temperature is higher than Up Shift Threshold (-55~85 °C) for over Up Shift Time (1~255 sec).
Up Shift Time (Sec)	Refer to the description for Up Shift Threshold.
Down Shift Threshold (°C)	The system will produce notification (alarm) when the monitored system temperature is lower than Down Shift Threshold (-55~85 °C) for over Down Shift Time (1~255 sec).
Down Shift Time (Sec)	Refer to the description for Down Shift Threshold.
Fan ON Threshold (°C)	FAN Enable temperature threshold (-40~15 °C). When the system temperature is higher than the threshold, the fan will be turned on automatically.
Fan Shift Time (Sec)	This field shows the elapsed time since the FAN was turned on.

4.7.6 Performance Monitoring

4.7.6.1 System Utilization

This option allows you to monitor the memory utilization and network processor utilization. From the *Maintenance* menu, click on *Performance Monitoring* and then *System Utilization*. The following page is displayed.

System Utilization

Current Memory Utilization	
(0)Parameter Bus(ZBT)	21.0%
(1)Packet Bus(SDRAM)	0.0%
(2)Host Bus(SDRAM)	0.0%
Current CPU Utilization	
(3)WinGine1	41.6%
(4)WinGine2	8.3%
(5)Average Loading	25.0%
(6)Idle	75.0%

4.7.6.2 Ethernet Statistics

This option allows you to view the Gigabit Ethernet counter values for the trunk or line interface. From the *Maintenance* menu, click on *Performance Monitoring* and then *Ethernet Statistics*. Click on the leftmost drop-down list to select interface (giga port or DSL line port); if line interface is selected, you must further click on the middle and rightmost drop-down list to select the line port number and PVC number. At last, click on **Query** to get data of that interface.

GBE interface:

Ethernet Statistics

GIGA Port XDSL Port-1 PVC-1 Query	
Statistics Name	Giga Port 1
MTU Size	1536
Queue LEN	0
Last Change	0
Specification	D
Description	Giga Ethernet
Input Bytes	0
Input Broadcast Packets	101827
Input Discard Packets	911
Input Multicast Packets	1472
Input Unicast Packets	4575
Input Not Unicast Packets	103299
Input Error Packets	0
Input Unknown Protocol Packets	0
Output Bytes	0
Output Broadcast Packets	11
Output Discard Packets	0
Output Multicast Packets	0
Output Unicast Packets	4549
Output Not Unicast Packets	11
Output Error Packets	0

ADSL line PVC:

Ethernet Statistics

Statistics Name	XDSL Port
MTU Size	1536
Queue Length	0
Last Change	0
Specification	L
Description	ATM
Input Bytes	0
Input Broadcast Packets	0
Input Discard Packets	0
Input Multicast Packets	0
Input Unicast Packets	0
Input Not Unicast Packets	0
Input Error Packets	0
Input Unknown Protocol Packets	0
Output Bytes	1749
Output Broadcast Packets	66
Output Discard Packets	27102
Output Multicast Packets	0
Output Unicast Packets	0
Output Not Unicast Packets	66
Output Error Packets	0

4.7.6.3 ATM Statistics

This option allows you to query the ATM Statistics. From the *Maintenance* menu, click on *Performance Monitoring* and then *ATM Statistics*. The following page is displayed.

ATM Statistics

ADSL Port	1	Show	Tx Cells	Query
Auto Update <input type="checkbox"/>				
ATM Cell Name	Port:1			
(12)Tx_cells	0000000000000001			
(13)Tx_clp1_cells	0000000000000000			
(14)Tx_efci_cells	0000000000000000			
(15)Tx_oam_cells	0000000000000001			
(16)Tx_rm_cells	0000000000000000			
(17)Tx_clp0_cells	0000000000000001			

Query ATM Statistics

Label	Description
ADSL Port	Click on this button to select line port.
Auto Update	Click on this checkbox to auto update the displayed statistics.
Show	Click on this drop-down list to select Tx, Rx, or All (Tx & Rx) data.
Query	Click on this button to query current statistics.

4.7.6.4 RMON

This option allows you to configure and query the RMON Statistics. The IDL-2402 supports performance statistics defined in RMON MIB groups 1 (Ethernet statistics), 2 (history control), 3 (alarm), and 9 (event) per RFC 2819 for all network uplink ports. From the *Maintenance* menu, click on *Performance Monitoring* and then *RMON*. The following page is displayed. Select type of RMON table in the drop-down list.

Remote Monitoring

Select Type [Select]

RMON Table
(1)ETH Statistics
(2)History Control
(3)ETH History
(4)Alarm
(5)Event
(6)LOG

◆ **ETH Statistics**

This option is for displaying the Ethernet interface RMON data. Click on the *Data Source* drop-down list and select GBE1. Type in an owner name and then click on **New** button to create a new ETH statistics entry. An owner is the entity that configured this entry and is therefore using the resources assigned to it.

Remote Monitoring - ETH Statistics

Select Type: ETH Statistics ▼			
Next No: 4		Data Source: GBE1 ▼	
Owner: RMON4		NEW	
<input type="button" value="Query"/> <input type="button" value="Modify"/> <input type="button" value="Delete"/>			
Index (Delete/Modify)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
Data Source	GBE1 ▼	GBE1 ▼	GBE1 ▼
Owner	RMON1	RMON2	RMON3
Rx DropEvents	00000000	00000000	00000000
Rx Bytes	00000000	00000000	00000000
Rx Packets	00000000	00000000	00000000
Rx BroadcastPkts	00000000	00000000	00000000
Rx MulticastPkts	00000000	00000000	00000000
Rx CRC Align Errors	00000000	00000000	00000000
Rx Undersize Pkts	00000000	00000000	00000000
Rx Oversize Pkts	00000000	00000000	00000000
Rx Fragments	00000000	00000000	00000000
Rx Jabbers	00000000	00000000	00000000
Tx Collisions	00000000	00000000	00000000
Tx/Rx Pkts 64bytes	00008200	00008200	00008200
Tx/Rx Pkts 65~127bytes	00000000	00000000	00000000
Tx/Rx Pkts 128~255bytes	00000000	00000000	00000000
Tx/Rx Pkts 256~511bytes	00000000	00000000	00000000
Tx/Rx Pkts 512~1023bytes	00000000	00000000	00000000
Tx/Rx Pkts 1024~1518bytes	00000000	00000000	00000000
Tx Bytes	0C208000	0C208000	0C208000
Tx Packets	0C008200	0C008200	0C008200
Tx Multicast Pkts	0C000000	0C000000	0C000000
Tx Broadcast Pkts	0C008200	0C008200	0C008200

To modify an entry in this table, click on the index to select the entry, type in new value, and then click on **Modify**. To delete an entry, click on the index to select the entry and then click on **Delete**.

The following parameters are monitored in this table:

RMON ETH Statistics variables

Variable	Description
Rx DropEvents	Monitoring rx dropped packets
Rx Bytes	Monitoring rx bytes packets
Rx Packet	Monitoring rx packets
Rx BroadcastPkts	Monitoring rx broadcast packets
Rx MulticastPkts	Monitoring rx multicast packets
Rx CRC Align Errors	Monitoring rx error alignment packets
Rx Undersize Pkts	Monitoring rx undersize packets
Rx Oversize Pkts	Monitoring rx oversize packets
Rx Fragments	Monitoring rx fragments packets
Rx Jabbers	Monitoring rx jabber packets
Tx Collisions	Monitoring tx single collision packets
Tx/Rx Pkts 64bytes	Monitoring tx/rx 64 bytes
Tx/Rx Pkts 65~127bytes	Monitoring tx/rx 65 to 127 bytes
Tx/Rx Pkts 128~255bytes	Monitoring tx/rx 128 to 255 bytes
Tx/Rx Pkts 256~511bytes	Monitoring tx/rx 256 to 511 bytes
Tx/Rx Pkts 512~1023bytes	Monitoring tx/rx 512 to 1023 bytes
Tx/Rx Pkts 1024~1518bytes	Monitoring tx/rx 1024 to 1518 bytes
Tx Bytes	Monitoring tx bytes packets
Tx Packet	Monitoring tx packets
Tx MulticastPkts	Monitoring tx multicast packets
Tx BroadcastPkts	Monitoring tx broadcast packets

◆ **History Control**

This table is for controlling the ETH History table (see next section). History Control 1 is for controlling ETH History table 1; History Control 2 is for controlling ETH History table 2; etc. Type in the Requested value and Interval (sec) and then click on **New** to create a History Control entry. Up to 10 History Control entries can be created. To modify an entry, click on the index to select the entry, type in new value, and then click on **Modify**. To delete an entry, click on the index to select the entry and then click on **Delete**.

Remote Monitoring - History Control

Select Type	History Control				
Next No:	2	Data Source:	GBE1		
Owner:	RMON2	Requested(1~65535):	50	Interval(1~3600):	1800
					NEW
	Modify	Delete	Query		
Index (Delete/Modify)	1 <input type="checkbox"/>				
Data Source	GBE1				
Owner	RMON1				
Requested	50				
Granted	50				
Interval	1800				

RMON History Control Table

Label	Description
Data Source	Data source identifies the source of the data for which historical data was collected and placed in a table on behalf of this HistoryControl entry. Here the source is GBE1 interface.
Owner	An owner is the entity that configured this entry and is therefore using the resources assigned to it.
Requested	Requested value is the requested number of intervals over which data is to be saved in the part of the media-specific table associated with this HistoryControl entry.
Granted	The number of sampling intervals over which data shall be saved in the part of the media-specific table associated with thisHistoryControl entry.
Interval	The interval in seconds over which the data is sampled for each bucket in the part of the media-specific table associated with this HistoryControl entry. The value range is 1 to 3600 (sec).

◆ **ETH History**

This option is for displaying Ethernet interface RMON history data. Before a history table is available, you have to create a History Control entry in advance (see previous section). To query the History table, click on the *History Index* drop-down list and select a history table and then click on **Query**.

Remote Monitoring - ETH History

Select Type: ETH History ▼	
History Index: History1 ▼	<input type="button" value="Query"/>
HistIndex	1
SampleIndex	8354
IntervalStart	13818days 06:27:31
Rx DropEvents	00000000
Rx Bytes	00000318
Rx Packets	0000000c
Rx Broadcast Pkts	0000000c
Rx Multicast Pkts	00000000
Rx CRC Align Errors	00000000
Rx Undersize Pkts	00000000
Rx Oversize Pkts	00000000
Rx Fragments	00000000
Rx Jabbers	00000000
Tx Collisions	00000000
Tx Bytes	000008c0
Tx Packets	00000023
Tx Multicast Pkts	00000023
Tx Broadcast Pkts	00000000
Utilization	0000001f

RMON ETH History Table

Label	Description
HistIndex	This field shows the History Table index. The history identified by this index is the same history as identified by the same value of History Control index.
SampleIndex	The Sample index uniquely identifies the particular Sample among all samples associated with the same History Control entry.
IntervalStart	The value of System Up Time* at the start of the interval over which this sample was measured.

***System Up Time is the time since the network management portion of the system was last re-initialized.**

RMON ETH History variables

Variable	Description
Rx DropEvents	Monitoring Rx dropped packets
Rx Bytes	Monitoring Rx bytes packets
Rx Packets	Monitoring Rx packets
Rx Broadcast Pkts	Monitoring Rx broadcast packets
Rx Multicast Pkts	Monitoring Rx multicast packets
Rx CRC Align Errors	Monitoring Rx error alignment packets
Rx Undersize Pkts	Monitoring Rx undersize packets
Rx Oversize Pkts	Monitoring Rx oversize packets
Rx Fragments	Monitoring Rx fragments packets
Rx Jabbers	Monitoring Rx jabber packets
Tx Collisions	Monitoring Tx single collision packets
Tx Bytes	Monitoring Tx bytes
Tx Packets	Monitoring Tx packets
Tx Multicast	Monitoring Tx multicast
Tx Broadcast	Monitoring Tx broadcast
Utilization	Monitoring Tx Utilization

◆ **Alarm**

This option allows you to configure the RMON alarm setting. This table controls the conditions on which alarms occur. Click on **New** to create an entry. To modify an entry, click on the index to select the entry, type in new value, and then click on **Modify**. To delete an entry, click on the index to select the entry and then click on **Delete**.

Remote Monitoring - Alarm

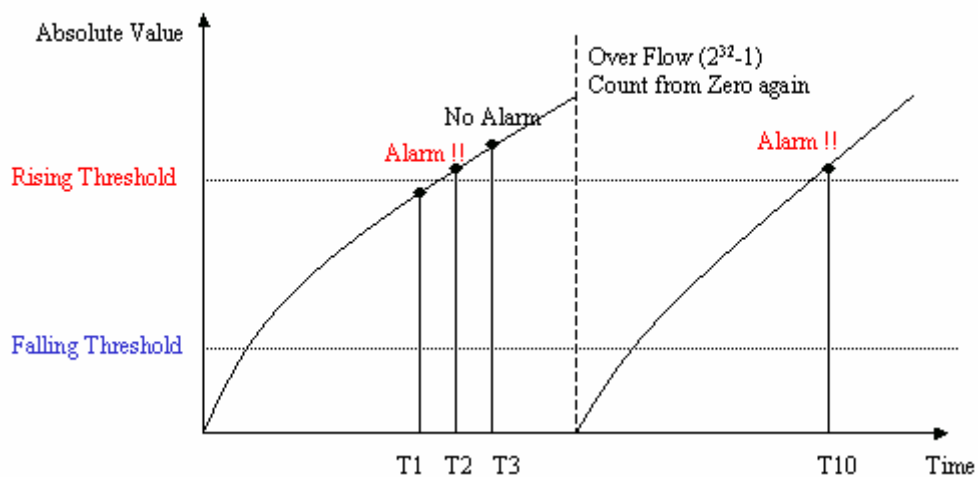
Index (Delete/Modify)	1	2
Interval	1800	1800
Owner	RMON1	RMON2
OID Variable	DropEvents 1	DropEvents 1
SampleType	Sampling ABSOLUTE	Sampling ABSOLUTE
StartupAlarm	Startup By RISING	Startup By RISING
Value	0	0
RisingThreshold	0	0
FallingThreshold	0	0
RisingEventIndex	0	0
FallingEventIndex	0	0

RMON Alarm setup

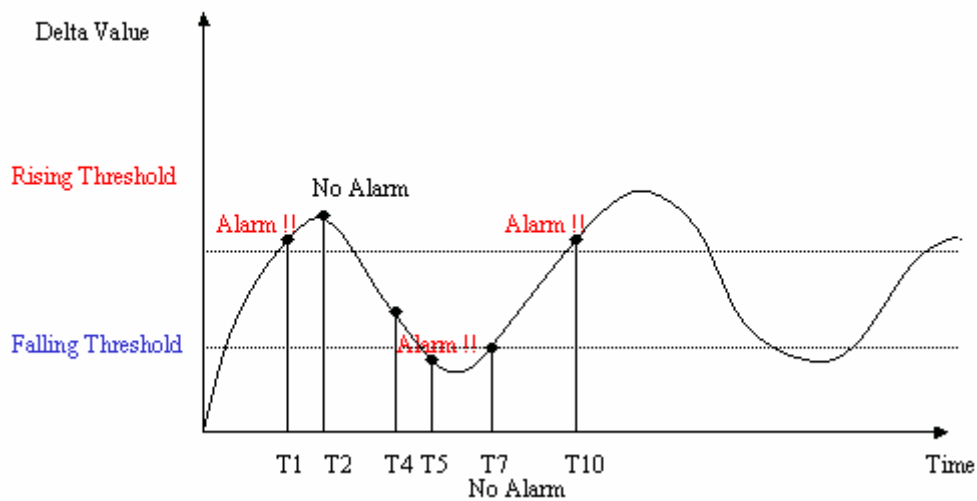
Label	Description
Interval	The interval in seconds over which the data is sampled and compared with the rising and falling thresholds. Value range: 0~2147483647 (0: disable).
Owner	RMON alarm owner (max 31 characters).
OID Variable	Click on the drop-down list to select ETH statistics variable and index of ETH Statistics table entries.
SampleType	RMON alarm sample type includes: ABSOLUTE: the value of the selected variable will be compared directly with the thresholds at the end of the sampling interval. DELTA: the value of the selected variable at the last sample will be subtracted from the current value, and the difference compared with the thresholds.

StartupAlarm	<p>Set the alarm type that may be sent. Options are Rising, Falling, and Both.</p> <p>Rising or Both: If the first sample after this entry becomes valid is greater than or equal to the Rising Threshold, then a single rising alarm will be generated.</p> <p>Falling or Both: If the first sample after this entry becomes valid is less than or equal to the Falling Threshold, then a single falling alarm will be generated.</p>
Value	This field shows the value of the monitored data.
Rising Threshold	RMON alarm rising threshold (0~4294967295).
Falling Threshold	RMON alarm falling threshold (0~4294967295).
Rising Event Index	This index is used when a rising threshold is crossed. You must refer to the index of RMON Event table. If there is no corresponding entry in the Event table, then no association exists.
Falling Event Index	This index is used when a falling threshold is crossed. You must refer to the index of RMON Event table. If there is no corresponding entry in the Event table, then no association exists.

Following figure shows an example of RMON alarm for ABSOLUTE sample type. As shown in the figure, the counting value keeps increasing. But when the value overflows, the system will count from zero again. The sample in T2 is the first one crossing the Rising Threshold, so an alarm occurs. No alarms will be generated afterwards unless the counting value overflows and count from zero again (the sample in T10 causes an alarm again).



Another figure shows the example of RMON alarm for DELTA sample type. As shown in the following figure, the delta value varies high and low. The sample in T1 is the first one crossing the Rising Threshold, so an alarm occurs. No alarms will be generated afterwards until T5 sample which is crossing the Falling Threshold (note that the value of the previous sample, T4 sample, is greater than the Falling Threshold and the value of T5 sample). Alarm is not generated for T7 sample since an alarm is already generated for T5 sample and the curve is not in a downward trend around T7. A Rising Threshold crossing alarm is generated again for T10 sample, because a Falling Threshold crossing alarm (T5) has occurred after the previous Rising Threshold crossing alarm (T1).



◆ **Event**

This option allows you to configure the RMON event setting. Click on **New** to create an entry.

To modify an entry, click on the index to select the entry, type in new value, and then click on **Modify**. To delete an entry, click on the index to select the entry and then click on **Delete**.

Remote Monitoring - Event

Select Type: <input type="text" value="Event"/>		
Next No: <input type="text" value="4"/>	Description: <input type="text" value="Description4"/>	Community: <input type="text" value="Community4"/>
Owner: <input type="text" value="RMON4"/>	Event Type: <input type="text" value="NONE"/>	<input type="button" value="NEW"/>
<input type="button" value="Modify"/> <input type="button" value="Delete"/> <input type="button" value="Query"/>		
Index (Delete/Modify)	1 <input type="checkbox"/>	2 <input type="checkbox"/> 3 <input type="checkbox"/>
Description	<input type="text" value="Description1"/>	<input type="text" value="Description2"/> <input type="text" value="Description3"/>
event Type	<input type="text" value="LOG"/>	<input type="text" value="SNMPTRAP"/> <input type="text" value="LOGANDTRAP"/>
Community	<input type="text" value="Community1"/>	<input type="text" value="Community2"/> <input type="text" value="Community3"/>
LastTimeSent	<input type="text" value="0"/>	<input type="text" value="0"/> <input type="text" value="0"/>
Owner	<input type="text" value="RMON1"/>	<input type="text" value="RMON1"/> <input type="text" value="RMON2"/>

RMON Event setup

Label	Description
Description	Type in comment describing the event.
Community	If an SNMP trap is to be sent, it will be sent to the SNMP community specified in this column.
Owner	Type in the RMON event owner.
Event Type	Click on the drop-down list and select event type. Options are NONE, LOG (an entry is made in the log table for each event), SNMPTRAP (an SNMP trap is sent to one or more management stations), LOGANDTRAP (log and send trap).
LastTimeSent	The value of System Up Time at the time this event entry last generated an event.

◆ LOG

This option allows you to query the RMON LOG. Click on **Query** button to display the log. Only the event indices with LOG or LOGANDTRAP event type (see previous section) are possible to appear in the log.

Remote Monitoring - LOG

Select Type	LOG		
<input type="button" value="Query"/>			
Index	EventIndex	Time	Description

4.6.7.5 ADSL Day/Interval

This option allows you to query the ADSL PM 15-Min and Day Statistics. The IDL-2402 provides Today and Previous 1 day for Day PM, and also provides Current and Previous 1 ~ 96 interval for 15-Min PM. From the *Maintenance* menu, click on *Performance Monitoring* and then *ADSL Day/Interval*. The following page is displayed. You can select to display one interval or all intervals data of a single port; you can also select to display one interval data for twelve ports (1~12, 13~24) at the same time.

ADSL Performance Statistics

More Port: 01~12	Port: 1	ALL Interval: <input type="checkbox"/>
<input type="radio"/> Day Today	<input checked="" type="radio"/> 15-Min Current	0
<input type="button" value="Query"/>		
Clearing current interval PM: <input type="button" value="Clear PM Port1"/>		
PM Counter	Near End	Far End
LOS	0	0
LOF	0	0
LOM	0	0
LPR	N/A	0
LOL	0	N/A
ES	0	0
SES	0	0
UAS	766	766
Re-Initialize(s)	0	N/A
Initialize fail(s)	0	N/A
User Cell(CU)	0	N/A
Delineate Cell(CD)	0	N/A
HEC	0	0
IBE	0	0
Channel-CV's	0	0
Channel-FECCs	0	0
[TCA PROFILE]		
15-Min Previous PM number between 1 and 96		

ADSL PM Statistics

Label	Description
More Port	Click on the drop-down list and select the port range. Options are: 01~12, 13~24. This drop-down list is available only when All is selected in the <i>Port</i> drop-down list.

Port	Click on the drop-down list and select a line port number (1 ~ 24). You can also select All and then click on <i>More Port</i> to select a port range to view the data of twelve ports at the same time.
All Interval	When you select to view a single port PM data, you can click on this checkbox to display the data of all intervals.
Query	Click on this button to get most recent data.
Clear PM	Click on this button to clear current PM data of the port you select.
LOS	Loss of Signal
LOF	Loss of Frame
LOM	Loss of Margin
LPR	Loss of Power (only for Far End)
LOL	Loss of Link (only for Near End)
ES	Errored Seconds
SES	Severely Errored Seconds
UAS	Unavailable Seconds
Re-Initialize	Modem Re-initialization events (only for Near End)
Initialize fail(s)	Modem Failed Initialization events (only for Near End)
User Cell (CU)	User Total Cell Count (only for Near End)
Delineate Cell (CD)	Delineated Total Cell Count (only for Near End)
HEC	ATM Header Error Count
IBE	Idle Cell Bit Error Count
Channel-CVs	Channel PM - Code Violations
Channel-FECCs	Channel PM- Forward Error Corrections

5. CLI Command Reference

Introduction

Access to the Operations System (OS) /Network Element (NE) system is protected by a logon security system. You can log on to the NE with the user name and password. After three failed logon attempts, the system refuses further attempts.

After you log on, the system monitors the interface for periods of inactivity. If the interface is inactive for too long, you are automatically logged off.

All the NEs have the same initial user name (admin) and password (admin). You should change the password as soon as possible, because the initial password is known to anyone who reads this manual. You can also change the user name or add additional user names. Use the “account add” command to enter a new user identification, password and authorization level. The system can handle one local logon session and at least four remote/OS sessions.

Connect Interface

Interface	Parameter
Console	Baud rate: 9600, Data bit:8, Parity: None, Stop bit :1
Telnet	Port 23
SSH	Port 22 (In Windows, you can run terminal emulator such as PuTTY)

Authorization Level

Level	Description
Super user	Superuser can run all commands.
Engineer	Engineer can run all commands except the commands for creating/modifying/ deleting account and displaying running configuration.
Guest (default)	Guest can run most commands except the commands that have creating/ modifying/deleting purpose.

Screen Description

```
this is motd file to inform any information to user
System Description: IDL-2402 24-port ADSL2+ POTS — System Information
Hardware Version:C
Firmware Version:1.00805 — System HW, FW,SW version
Software Version:1.00805
Compiled Tue Jun 10 20:43:55 CST 2008
local:>enable
local:%
===== Enable Mode Help =====
bye          Quit CLI
disable      Disable mode
end          Return to Enable mode
exit        Exit current mode
help        Help command
list        List command
system      System commands
cluster     Cluster management switch
-----
configure    Configuration mode
ping         ICMP Ping
show        Show commands
telnet      Telnet to ip address
traceroute  Trace Route
local:% — Prompt Symbol
```

Global Command and Description

General Command and Description

Screen Description

Execution Modes

The CLI contains several execution modes. Users will see different set of commands under different execution modes. Table 5-1 lists all the execution modes and their purposes. When users enter a certain execution mode, the corresponding mode prompt will be displayed automatically on the screen. The mode prompts of all the execution modes are also listed in Table 5-1.

5-1 List of Execution Modes

Execute mode	Description	Prompt symbol
Initialize	Without login prompt or already authenticated	>
Enable	Management capable	%
Configure	Configuration capable	(conf)#
Interface	Interface configure capable	(intf-conf)#
Ethernet Interface	Ethernet Interface configure capable	(ethernet-intf-conf)#
ATM Bridge	ATM Bridge configuration capable	(bridge-atm-conf)#
ATM Description	ATM Description configuration capable	(atm-desc-conf)#
ADSL config	ADSL line configuration capable	(adsl-intf-conf)#
IPOA config	IPoA routed mode configuration capable	(ipoa-intf-conf)#
Bridge	Bridge configuration capable	(bridge-eth-conf)#
Access List	ACL configuration capable	(acl-conf)#
Service Profile	User/Line service profile configuration capable	(service-profile)#
Spectrum Profile	User/Line spectrum profile configuration capable	(spectrum-profile)#
Alarm Profile	User/Line alarm profile configuration capable	(alarm-profile)#
Tca Profile	User/Line tca profile configuration capable	(tca-profile)#
IGMP ACL Profile	IGMP ACL profile configuration capable	(igmpacl-profile)#
Rate Limit Profile	Rate-Limit Policer profile configuration capable	(rate-limit-profile)#
Priority List	Priority List configuration capable	(prio-conf)#

Getting help

The user can get help in two ways.

The first is by using the **help** command. The user can also enter a question mark '?' at each position in the command. The displayed result depends on the execution mode and previous input.

Terminal Key Function

Following is the list of all the terminal keys and their function.

Table 5-1 List of Terminal Keys

TAB	Attempt to perform completion on the text before point
TAB TAB	Display the next keyword of this command
?	Display help of command
ENTER	Execute input
DEL or BACKSPACE	Delete the character to the left of the cursor
UP Arrow	History of last input line
DOWN Arrow	History of previous input Line
CTRL-d	Delete the character at point. If point is at the beginning of the line, there are no characters in the line, and the last character typed was not bound to delete-char, then return EOF.
CTRL-a	Move to the start of the line
CTRL-e	Move to the end of the line
CTRL-f	Move Forward one character
CTRL-b	Move Back one character
CTRL-c	Force to interrupt
CTRL-k	Kill the text from the current cursor to the end
CTRL-p	Move 'back' through the history list, fetching the previous command.
CTRL-n	Move 'forward' through the history list, fetching the next command.
CTRL-r	Search backward starting at the current line and moving 'up' through the history as necessary. This is an incremental search.

CTRL-t	Drag the character before the cursor forward over the character at the cursor, moving the cursor forward as well. If the insertion point is at the end of the line, this transposes the last two characters of the line. Negative arguments have no effect.
CTRL-u	Kill backward from the cursor to the beginning of the current line.
CTRL-w	Kill the word behind point, using white space as a word boundary. The killed text is saved on the kill-ring.
CTRL-y	Yank the top of the kill ring into the buffer at point.
CTRL-s	Terminal will not response to what the operator key in
CTRL-q	Back to normal mode from terminal not responding mode
CTRL-z	Exit current execution mode

Notation Conventions

The notation conventions for the parameter syntax of each CLI command are as follows:

- ◆ Parameters enclosed in [] are optional.
- ◆ Parameter values are separated by a vertical bar “|” only when one of the specified values can be used.
- ◆ Parameter values are enclosed in { } when you must use one of the values specified.

About String-type Parameters

Some commands have string type parameters. When you type in the values of these parameters, you must be careful not to use the keyword that is actually a part of some command. For example, ‘account add default’ will cause a syntax mistake, since **default** is the keyword of the command ‘igmp default’ and some other commands. Therefore, it is recommended to add “ ” when you have to use the command keyword as the parameter value. In this way, the keyword will be regarded as a common string. For example, account add “default”.

5.1 Global Commands

The Global commands can be used in all execution modes.

5.1.1 bye

Description	Exit
Syntax	bye
Parameter	None

5.1.2 cluster

Description	Switch to a NE (network element) in the cluster
Syntax	cluster <string>
Parameter	

Name	Description
<string>	NE name in the cluster you want to switch to. Valid values: string type value. Default value: - Type: Mandatory

5.1.3 cluster local

Description	Switch to Master in the cluster
Syntax	cluster local
Parameter	None

5.1.4 disable

Description	Go to Disable execution mode from logoff mode
Syntax	disable
Parameter	None

5.1.5 end

Description	Return to Enable mode
Syntax	end
Parameter	None

5.1.6 exit

Description	Go to previous execution mode
Syntax	exit
Parameter	None

5.1.7 help

Description Display help
Syntax help
Parameter None

5.1.8 list

Description Display all commands of current mode
Syntax list
Parameter None

5.1.9 list opmode

Description List all the ADSL modes of operation.
Syntax list opmode
Parameter None

5.1.10 system contact

Description Set system contact
Syntax system contact <contact>
Parameter

Name	Description
<contact>	System contact Valid values: string type value. Max 63 characters. Default value: - Type: Optional

5.1.11 system location

Description Set system location
Syntax system location <location>
Parameter

Name	Description
<location>	System location Valid values: string type value. Max 63 characters. Default value: - Type: Optional

5.1.12 system name

Description Set system name

Syntax system name <name>

Parameter

Name	Description
<name>	System name Valid values: string type value. Max 32 characters. Default value: - Type: Optional

5.1.13 system restart

Description Restart the system

Syntax system restart

Parameter None

5.2 Initialize Mode Commands

5.2.1 enable

Description	Go to Enable execution mode from disable mode
Syntax	enable
Parameter	None

5.2.2 show license

Description	Display GNU software license
Syntax	show license
Parameter	None

5.2.3 show time

Description	Display current time
Syntax	show time
Parameter	None

5.2.4 show uptime

Description	Display System up time and CPU loading
Syntax	show uptime
Parameter	None

5.2.5 show version

Description	Display CLI software version
Syntax	show version
Parameter	None

5.3 Enable Mode Commands

The commands in this section can be executed only in the Enable execution mode.

5.3.1 configure

Description	Go to Configure execution mode from Enable mode.
Syntax	configure
Parameter	None

5.3.2 ping

Description	ICMP echo and reply from hostname address or IP address. If no reply for a long time, you can press Ctrl + c to interrupt ping.
Syntax	ping {ipv4 address} ping {ipv4 address} count <count> ping {ipv4 address} size <size> ping {ipv4 address} count <count> size <size>
Parameter	

Parameter

Name	Description
ipv4 address	IPv4 address. Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: -
count	The number of PING packets sent. Default value: -
size	Packet size. Default value: -

5.3.3 show access-list bcrate

Description	Display all broadcast rate limiting list
Syntax	show access-list bcrate
Parameter	None

5.3.4 show access-list dstip

Description	Display all dest IP deny access list or by index
Syntax	show access-list dstip [<index>]
Parameter	

Name	Description
<index>	Destination IP deny access list number. Valid values: 1 ~ 256

	Default value: - Type: Optional
--	--

5.3.5 show access-list dstmac

Description Display all destination MAC address deny access list or by index

Syntax show access-list dstmac [<index>]

Parameter

Name	Description
<index>	Destination MAC deny access list number. Valid values: 1 ~ 256 Default value: - Type: Optional

5.3.6 show access-list ethertype

Description Display all EtherType deny access list or by index

Syntax show access-list ethertype [<index>]

Parameter

Name	Description
<index>	EtherType deny access list number. Valid values: 1 ~ 256 Default value: - Type: Optional

5.3.7 show access-list ip-allowed

Description Display all static IP allowed access list or by index

Syntax show access-list ip-allowed [<index>]

Parameter

Name	Description
<index>	Static IP allowed access list number. Valid values: 1 ~ 256 Default value: - Type: Optional

5.3.8 show access-list ipprotocol

Description Display all IP protocol deny access list or by index

Syntax show access-list ipprotocol [<index>]

Parameter

Name	Description
<index>	IP Protocol deny access list number. Valid values: 1 ~ 256 Default value: - Type: Optional

5.3.9 show access-list l4dstport

Description Display all L4 dest port deny access list or by index

Syntax show access-list l4dstport [<index>]

Parameter

Name	Description
<index>	L4 destination port deny access list number. Valid values: 1 ~ 256 Default value: - Type: Optional

5.3.10 show access-list mcfltrate

Description Display all flooding rate limiting list or by VLAN ID

Syntax show access-list mcfltrate [vlan <VLAN ID>]

Parameter

Name	Description
VLAN ID	VLAN ID. Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.3.11 show access-list srcip

Description Display all source IP deny access list or by index

Syntax show access-list srcip [<index>]

Parameter

Name	Description
<index>	Source IP deny access list number. Valid values: 1 ~ 256

	Default value: - Type: Optional
--	--

5.3.12 show access-list srcmac

Description Display all source mac address deny access list or by index

Syntax show access-list srcmac [<index>]

Parameter

Name	Description
<index>	Source MAC deny access list number. Valid values: 1 ~ 256 Default value: - Type: Optional

5.3.13 show account

Description Display system account list / detail information

Syntax show account [detail]

Parameter None

5.3.14 show aging

Description Display bridge aging time

Syntax show aging

Parameter None

5.3.15 show alarm current

Description Display current alarm list

Syntax show alarm current

Parameter None

5.3.16 show alarm event

Description Display event list

Syntax show alarm event

Parameter None

5.3.17 show alarm history

Description Display alarm history list

Syntax show alarm history

Parameter None

5.3.18 show atmdesc

Description Display ATM descriptor

Syntax show atmdesc

Parameter None

5.3.19 show atm-loopback

Description Display ATM loopback status (by port)

Syntax show atm-loopback [<port>]

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Optional

5.3.20 show cli-config

Description Display current setting for CLI configuration (timeout value, session value)

Syntax show cli-config

Parameter None

5.3.21 show cluster

Description Display cluster configuration / Display cluster member list / Display cluster status

Syntax show cluster {config | member | status}

Parameter None

5.3.22 show cpu

Description Display CPU information

Syntax show cpu

Parameter None

5.3.23 show dot1x

Description Display 802.1x information

Syntax show dot1x

Parameter None

5.3.24 show dot1x profile

Description Display 802.1x profile

Syntax show dot1x profile

Parameter None

5.3.25 show dot1x server

Description Display 802.1x server configuration

Syntax show dot1x server

Parameter None

5.3.26 show dot1x server <index>

Description Display 802.1x server configuration by index [1..3]

Syntax show dot1x server <index>

Parameter

Name	Description
<index>	Display 802.1x server configuration by index. Valid values: 1 ~ 3 Default value: - Type: Mandatory

5.3.27 show dsl-line-identify

Description Display DSL line identify information

Syntax show dsl-line-identify

Parameter None

5.3.28 show fdb

Description Display all MAC learning table or by VLAN ID

Syntax show fdb [vlan <VLAN ID>]

Parameter

Name	Description
<VLAN ID>	VLAN ID. Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.3.29 show fdbstatic

Description Display all static MAC forwarding table or by index

Syntax show fdbstatic [<index>]

Parameter

Name	Description
<index>	Static MAC forwarding table number. Valid values: 1 ~ 512 Default value: - Type: Optional

5.3.30 show firmware

Description Display firmware update status or partition information.

Note: the 'Active' status of the firmware partition information means the active partition for next time restart, not current running partition.

Ex.

```
local:%show firmware partition
```

```
Current Version:1.00B05
```

Partition	Version	Date	Status

1	1.00B05t1	2008/7/4	--
2	1.00B05	2008/6/18	Active

Syntax show firmware {status | partition}

Parameter None

5.3.31 show help

Description Display Help

Syntax show help

Parameter None

5.3.32 show http

Description Display HTTP Web port

Syntax show http

Parameter None

5.3.33 show igmp

Description Display IGMP information

Syntax show igmp

Parameter None

5.3.34 show igmp group

Description Display IGMP VLAN group list

Syntax show igmp group list

show igmp group ip <ipv4 address> vlan <VLAN ID>

show igmp group ip <ipv4 address> vlan <VLAN ID> src list

show igmp group ip <ipv4 address> vlan <VLAN ID> src <ipv4 address>

Parameter

Name	Description
ipv4 address	IGMP group address Valid values: 224.0.0.0 ~ 239.255.255.255 The range of addresses from 224.0.0.0 to 224.0.0.255 is reserved for the use of routing protocols and other low-level topology discovery or maintenance protocols. Default value: - Type: Mandatory
VLAN ID	VLAN ID. Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.3.35 show igmp rtpport

Description Display all IGMP router port list or by VLAN ID

Syntax show igmp rtpport [vlan <VLAN ID>]

Parameter

Name	Description
VLAN ID	VLAN ID. Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.3.36 show igmp-acl bind gigabit

Description Display IGMP ACL bind status for gigabit interface

Syntax show igmp-acl bind gigabit <port>

Parameter

Name	Description
port	Gigabit Ethernet port number Valid values: 1 Default value: - Type: Optional

5.3.37 show igmp-acl bind xdsl

Description Display IGMP ACL bind status for xdsl bridge port

Syntax show igmp-acl bind xdsl <port>

Parameter

Name	Description
port	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.38 show interface xdsl {all | <port>} adsl carrier fe ds snr

Description Display carrier information of far-end snr downstream by Bridge port (the xdsl port must be in diagnostic mode and the test is completed)

Syntax show interface xdsl {all | <port>} adsl carrier fe ds snr

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.39 show interface xdsl {all | <port>} adsl carrier fe ds qln

Description Display carrier information of far-end qln downstream by Bridge port (the xdsl port must be in diagnostic mode and the test is completed)

Syntax show interface xdsl {all | <port>} adsl carrier fe ds qln

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.40 show interface xdsl {all | <port>} adsl carrier fe ds hlin

Description Display carrier information of far-end hlin downstream by Bridge port (the xdsl port must be in diagnostic mode and the test is completed)

Syntax show interface xdsl {all | <port>} adsl carrier fe ds hlin

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.41 show interface xdsl {all | <port>} adsl carrier fe ds hlog

Description Display carrier information of far-end hlog downstream by Bridge port (the xdsl port must be in diagnostic mode and the test is completed)

Syntax show interface xdsl {all | <port>} adsl carrier fe ds hlog

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.42 show interface xdsl {all | <port>} adsl carrier fe us load

Description Display carrier information of far-end load upstream by Bridge port

Syntax show interface xdsl {all | <port>} adsl carrier fe us load

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.43 show interface xdsl {all | <port>} adsl carrier fe us gain

Description Display carrier information of far-end gain upstream by Bridge port

Syntax show interface xdsl {all | <port>} adsl carrier fe us gain

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.44 show interface xdsl {all | <port>} adsl carrier fe us tss

Description Display carrier information of far-end tss upstream by Bridge port (the xdsl port must be in diagnostic mode and the test is completed)

Syntax show interface xdsl {all | port>} adsl carrier fe us tss

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.45 show interface xdsl {all | <port>} adsl carrier ne us snr

Description Display carrier information of near-end snr upstream by Bridge port (the xdsl port must be in diagnostic mode and the test is completed)

Syntax show interface xdsl {all | <port>} adsl carrier ne us snr

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.46 show interface xdsl {all | <port>} adsl carrier ne us qln

Description Display carrier information of near-end qln upstream by Bridge port (the xdsl port must be in diagnostic mode and the test is completed)

Syntax show interface xdsl {all | <port>} adsl carrier ne us qln

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.47 show interface xdsl {all | <port>} adsl carrier ne us hlin

Description Display carrier information of near-end hlin upstream by Bridge port (the xdsl port must be in diagnostic mode and the test is completed)

Syntax show interface xdsl {all | <port>} adsl carrier ne us hlin

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.48 show interface xdsl {all | <port>} adsl carrier ne us hlog

Description Display carrier information of near-end hlog upstream by Bridge port (the xdsl port must be in diagnostic mode and the test is completed)

Syntax show interface xdsl {all | <port>} adsl carrier ne us hlog

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.49 show interface xdsl {all | <port>} adsl carrier ne ds load

Description Display carrier information of near-end load downstream by Bridge port

Syntax show interface xdsl {all | <port>} adsl carrier ne ds load

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.50 show interface xdsl {all | <port>} adsl carrier ne ds gain

Description Display carrier information of near-end gain downstream by Bridge port

Syntax show interface xdsl {all | <port>} adsl carrier ne ds gain

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.51 show interface xdsl {all | <port>} adsl carrier ne ds tss

Description Display carrier information of near-end tss downstream by Bridge port (the xdsl port must be in diagnostic mode and the test is completed)

Syntax show interface xdsl {all | <port>} adsl carrier ne ds tss

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.52 show interface xdsl {all | <port>} adsl channel

Description Display xDSL line channel information by Bridge port

Syntax show interface xdsl {all | <port>} adsl channel

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.53 show interface xdsl {all | <port>} adsl failure

Description Display xDSL failure by Bridge port

Syntax show interface xdsl {all | <port>} adsl failure

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.54 show interface xdsl {all | <port>} adsl line

Description Display xDSL line status by Bridge port

Syntax show interface xdsl {all | <port>} adsl line

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.55 show interface xdsl {all | <port>} adsl line config

Description Display xDSL line configuration information by Bridge port

Syntax show interface xdsl {all | <port>} adsl line config

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.56 show interface xdsl {all | <port>} adsl line delt-test

Description Display xDSL line DELT test information by Bridge port

Syntax show interface xdsl {all | <port>} adsl line delt-test

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.57 show interface xdsl {all | <port>} adsl line information

Description Display xDSL line information by Bridge port

Syntax show interface xdsl {all | <port>} adsl line information

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.58 show interface xdsl {all | <port>} adsl inventory

Description Display xDSL inventory by Bridge port

Syntax show interface xdsl {all | <port>} adsl inventory

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.59 show interface xdsl {all | <port>} adsl operational

Description Display xDSL far-end/near-end operational information by Bridge port

Syntax show interface xdsl {all | <port>} adsl operational {fe | ne}

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.60 show interface xdsl {all | <port>} bridge

Description Display Bridge information by Bridge port

Syntax show interface xdsl {all | <port>} bridge

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.61 show interface xdsl {all | <port>} cellcount

Description Display ATM cell counter by Bridge port

Syntax show interface xdsl {all | <port>} cellcount

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.62 show interface xdsl {all | <port>} counter

Description Display Ethernet packet counter by Bridge port

Syntax show interface xdsl {all | <port>} counter

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.63 show interface xdsl {all | <port>} ipoa

Description Display IPoA (RFC 2684) information by Bridge port

Syntax show interface xdsl {all | <port>} ipoa

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.64 show interface xdsl {all | <port>} vc

Description Display VC information by Bridge port

Syntax show interface xdsl {all | <port>} vc

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.65 show interface xdsl {all | <port>} vlan

Description Display VLAN information by Bridge port

Syntax show interface xdsl {all | <port>} vlan

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.66 show interface bridge

Description Display All interface Bridge information

Syntax show interface bridge

Parameter None

5.3.67 show interface counter

Description Display All interface Ethernet packet counter

Syntax show interface counter

Parameter None

5.3.68 show interface gigabit [<port>] bridge

Description Display Bridge information of the Gigabit Ethernet interface or by Gigabit Ethernet port

Syntax show interface gigabit [<port>] bridge

Parameter

Name	Description
port	Gigabit Ethernet port number Valid values: 1 Default value: - Type: Optional

5.3.69 show interface gigabit [<port>] counter

Description Display Gigabit Ethernet counter of the Gigabit Ethernet interface or by Gigabit Ethernet port

Syntax show interface gigabit [<port>] counter

Parameter

Name	Description
port	Gigabit Ethernet port number Valid values: 1 Default value: - Type: Optional

5.3.70 show interface gigabit [<port>] vlan

Description Display VLAN information of the Gigabit Ethernet interface or by Gigabit Ethernet port

Syntax show interface gigabit [<port>] vlan

Parameter

Name	Description
port	Gigabit Ethernet port number Valid values: 1 Default value: - Type: Optional

5.3.71 show mac-spoofing-detect config

Description Display MAC Spoofing Detect configuration
Syntax show mac-spoofing-detect config
Parameter None

5.3.72 show mac-spoofing-detect log

Description Display MAC Spoofing Detect log
Syntax show mac-spoofing-detect log
Parameter None

5.3.73 show management all

Description Display all system management port ip setting
Syntax show management all
Parameter None

5.3.74 show management gbe

Description Display GBE management port ip setting
Syntax show management gbe
Parameter None

5.3.75 show pm <port> adsl day

Description Display performance monitoring data for previous 1 day or current day
Syntax show pm <port> adsl day {<number> | current}
Parameter

Name	Description
port	Port number Valid values: 1~24(48) Default value: - Type: Mandatory
number	Day number Valid values: 1~1 Default value: - Type: Mandatory

5.3.76 show pm <port> adsl interval

Description Display performance monitoring data for previous 1~96 intervals or current interval

Syntax show pm <port> adsl interval {<number> | current}

Parameter

Name	Description
port	Port number Valid values: 1~24(48) Default value: - Type: Mandatory
number	Interval number Valid values: 1~96 Default value: - Type: Mandatory

5.3.77 show port-template parameter

Description Display parameter mask. That is, display which profiles (or function) of the template port are selected to be duplicated to other ports. Mask means selected; Unmask means not-selected.

Syntax show port-template parameter

Parameter None

5.3.78 show priority-list ds

Description Display differentiated services priority list

Syntax show priority-list ds [<number>]

Parameter

Name	Description
number	Differentiate services priority list number. Valid values: 1 ~ 256 Default value: - Type: Optional

5.3.79 show priority-list dstip

Description Display destination IP address priority list

Syntax show priority-list dstip [<number>]

Parameter

Name	Description
number	Destination IP address priority list number. Valid values: 1 ~ 256 Default value: - Type: Optional

5.3.80 show priority-list dstmac

Description Display destination MAC address priority list

Syntax show priority-list dstmac [<number>]

Parameter

Name	Description
number	Destination MAC address priority list number. Valid values: 1 ~ 256 Default value: - Type: Optional

5.3.81 show priority-list ethertype

Description Display specific Ether Type VLAN priority list

Syntax show priority-list ethertype [<number>]

Parameter

Name	Description
number	Ether Type priority list number. Valid values: 1 ~ 256 Default value: - Type: Optional

5.3.82 show priority-list ipprotocol

Description Display IP Protocol VLAN priority list

Syntax show priority-list ipprotocol [<number>]

Parameter

Name	Description
number	IP Protocol VLAN priority list number. Valid values: 1 ~ 256

	Default value: - Type: Optional
--	--

5.3.83 show priority-list srcip

Description Display source IP address priority list

Syntax show priority-list srcip [<number>]

Parameter

Name	Description
number	Source IP address priority list number. Valid values: 1 ~ 256 Default value: - Type: Optional

5.3.84 show priority-list srcmac

Description Display source MAC address priority list

Syntax show priority-list srcmac [<number>]

Parameter

Name	Description
number	Source MAC address priority list number. Valid values: 1 ~ 256 Default value: - Type: Optional

5.3.85 show priority-list tos

Description Display ToS (IP Precedence) priority list

Syntax show priority-list tos [<number>]

Parameter

Name	Description
number	ToS (IP Precedence) priority list number. Valid values: 1 ~ 256 Default value: - Type: Mandatory

5.3.86 show priority-list vlanid

Description Display VLAN ID priority list

Syntax show priority-list vlanid [<number>]

Parameter

Name	Description
number	VLAN ID priority list number. Valid values: 1 ~ 256 Default value: - Type: Mandatory

5.3.87 show priority-queue config

Description Display Priority and Queue mapping configuration

Syntax show priority-queue config

Parameter None

5.3.88 show priority-regen

Description Display VLAN priority tag filter

Syntax show priority-regen

Parameter None

5.3.89 show profile alarm all

Description Display alarm profile

Syntax show profile alarm all

Parameter None

5.3.90 show profile igmp-acl

Description Display IGMP ACL profile

Syntax show profile igmp-acl <number>

Parameter

Name	Description
<number>	Profile index Valid values: 1~15 Default value: - Type: Mandatory

5.3.91 show profile rate-limit policer

Description Display rate limit policer information

Syntax show profile rate-limit policer

Parameter None

5.3.92 show profile service adsl

Description Display ADSL service profile

Syntax show profile service adsl {<number> | all}

Parameter

Name	Description
<number>	Profile index Valid values: 1~120 Default value: - Type: Optional

5.3.93 show profile spectrum adsl

Description Display ADSL service profile

Syntax show profile service adsl {<number> | all}

Parameter

Name	Description
<number>	Profile index Valid values: 1~120 Default value: - Type: Optional

5.3.94 show profile tca adsl

Description Display one specified threshold crossing alert profile or all profiles

Syntax show profile tca adsl {<index> | all}

Parameter

Name	Description
<index>	Profile index Valid values: 1~64 Default value: - Type: Mandatory

5.3.95 show rmon alarm

Description Display RMON alarm information

Syntax show rmon alarm {all | <number>}

Parameter

Name	Description
number	RMON alarm entry index. Valid values: 1 ~ 64 Default value: - Type: Mandatory

5.3.96 show rmon ether_history

Description Display RMON Ether history information

Syntax show rmon ether_history <number>

Parameter

Name	Description
number	RMON index. Valid values: 1 ~ 10 Default value: - Type: Mandatory

5.3.97 show rmon event

Description Display RMON event information

Syntax show rmon event {all | <number>}

Parameter

Name	Description
number	RMON event entry index. Valid values: 1 ~ 128 Default value: - Type: Mandatory

5.3.98 show rmon history

Description Display RMON history control information

Syntax show rmon history {all | <number>}

Parameter

Name	Description
number	RMON history control entry index. Valid values: 1 ~ 10

	Default value: - Type: Mandatory
--	---

5.3.99 show rmon log

Description Display RMON log

Syntax show rmon log

Parameter None

5.3.100 show rmon statistic

Description Display RMON statistic information

Syntax show rmon statistic {all | <number>}

Parameter

Name	Description
number	RMON statistic entry index. Valid values: 1 ~ 10 Default value: - Type: Mandatory

5.3.101 show route

Description Display GBE routing table and default gateway

Syntax show route

Parameter None

5.3.102 show runningcfg

Description Display running config

Syntax show runningcfg

Parameter None

5.3.103 show runningcfg interface gigabit

Description Display running config by Gigabit Ethernet interface

Syntax show runningcfg interface gigabit <port>

Parameter

Name	Description
port	Gigabit port number Valid values: 1 Default value: - Type: Mandatory

5.3.104 show runningcfg interface xdsl

Description Display running config by XDSL interface

Syntax show runningcfg interface xdsl <port>

Parameter

Name	Description
port	XDSL Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.3.105 show snmp

Description Display SNMP community/notify/target setting

Syntax show snmp {community | notify | target}

Parameter None

5.3.106 show sntp

Description Display SNTP setting

Syntax show sntp

Parameter None

5.3.107 show syslog server

Description Display IP address of the syslog server

Syntax show syslog server

Parameter None

5.3.108 show system

Description Display system information/inventory/name/performance

Syntax show system {information | inventory | name | performance}

Parameter None

5.3.109 show tcm config

Description Display TCM (Three-Color Marking) Policer configuration

Syntax show tcm config

Parameter None

5.3.110 show tcm-policer

Description Display TCM Policer Binding Table

Syntax show tcm-policer

Parameter None

5.3.111 show temperature

Description Display system temperature
Syntax show temperature
Parameter None

5.3.112 show time

Description Display current time
Syntax show time
Parameter None

5.3.113 show uptime

Description Display System up time and CPU loading
Syntax show uptime
Parameter None

5.3.114 show version

Description Display CLI software version
Syntax show version
Parameter None

5.3.115 show version detail

Description Display CLI software version and system information
Syntax show version detail
Parameter None

5.3.116 show vlan

Description Display bridge port member set
Syntax show vlan [<VLAN ID>]
Parameter

Name	Description
<VLAN ID>	VLAN ID. Valid values: 1 ~ 4094 Default value: - Type: Optional

5.3.117 show vlan ethertype

Description Show VLAN S-Tag Ether type

Syntax show vlan ethertype

Parameter None

5.3.118 show vlan protocol-base

Description Display protocol based VLAN table

Syntax show vlan ethertype

Parameter None

5.3.119 show vlan-translation one-to-one

Description Display one-to-one VLAN translation table

Syntax show vlan-translation one-to-one

Parameter None

5.3.120 show vlan-translation many-to-one

Description Display many-to-one VLAN translation table

Syntax show vlan-translation many-to-one

Parameter None

5.3.121 telnet

Description Telnet to a destination (if you're connecting to the DSLAM through its console port, this command is not provided)

Syntax telnet <target address>

Parameter

Name	Description
target address	IPV4 address or hostname Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: - Type: Mandatory

5.3.122 traceroute

Description Trace route (and not use ICMP ECHO instead of UDP datagrams)

Syntax traceroute <target address> [no_icmp]

Parameter

Name	Description
target address	IPV4 address Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: - Type: Mandatory

5.4 Configure Mode Commands

The commands in this section can be executed only in the Configure execution mode.

5.4.1 access-list

Description	Go to access-list execution mode from Configure mode.
Syntax	access-list
Parameter	None

5.4.2 account add

Description	Add new account
Syntax	account add <name> account add <name> password <password> comment <comment> account add <name> password <password> level <level> [comment <comment>] account add <name> password <password> password-expiration <day number>

Parameter

Name	Description
<name>	ID name (max 31 characters). Only 0-9, a-z, A-Z, and symbol “_ -.” are accepted for account name. For example, abc_12_XYZ-10.1 is a valid user name. Note that the IDL-2402 does not accept user names beginning with a digital number. For example, 123abc or 123456 are not a valid name. Default value: - Type: Mandatory
<password>	Input password (max 31 characters) Default value: space char Type: Optional
<level>	Set access level Valid values: superuser, engineer, guest Default value: guest Type: Optional
<comment>	Set comment (max 31 characters) Default value: space char Type: Optional

<day number>	Set password expiration days (0:disable) Default value: - Type: Optional
--------------	--

5.4.3 account delete

Description Delete account
Syntax account delete <name>
Parameter

Name	Description
<name>	ID name (max 31 characters) Default value: - Type: Mandatory

5.4.4 account modify

Description Modify account
Syntax account modify <name> comment <comment>
account modify <name> password <password> [{ level <level>
[comment <comment>] | comment <comment> |
password-expiration <day number> }]
account modify <name> level <level> [comment <comment>]
account modify <name> password-expiration <day number>

Parameter

Name	Description
<name>	ID name (max 31 characters) Default value: - Type: Mandatory
<password>	Input password (max 31 characters) Default value: space char Type: Optional
<level>	Set access level Valid values: superuser, engineer, guest Default value: guest Type: Optional
<comment>	Set comment (max 31 characters) Default value: space char Type: Optional
day number	Set password expiration days (0:disable)

	Default value: - Type: Optional
--	--

5.4.5 aging

Description Bridge aging time

Syntax aging <number>

Parameter

Name	Description
number	Aging time (sec). Valid values: (10~1000000) sec. Default value: 300 Type: Mandatory

5.4.6 alarm event clear

Description Clear alarm event log

Syntax alarm event clear

Parameter None

5.4.7 alarm history clear

Description Clear alarm history

Syntax alarm history clear

Parameter None

5.4.8 atmdesc

Description Go to ATM-description execution mode from Configure mode

Syntax atmdesc

Parameter None

5.4.9 atm-loopback

Description ATM loopback testing OAM Cell Generation enable / OAM Cell Generation disable / Set ATM loopback type or clear loopback status for a PVC

Syntax atm-loopback enable
atm-loopback disable
atm-loopback <port>/<pvc> {type <type> | clear}

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48)

	Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1~8 Default value: - Type: Mandatory
<type>	ATM loopback type Valid values: f5-e2e, f5-segment Default value: - Type: Mandatory

5.4.10 cli-config session

Description Set CLI max number of connection sessions

Syntax cli-config session <number>

Parameter

Name	Description
<number>	Set CLI max number of connection sessions Valid values: 1~10 Default value: 5 Type: Mandatory

5.4.11 cli-config timeout

Description Set CLI configuration timeout value

Syntax cli-config timeout <number>

Parameter

Name	Description
<number>	Set CLI connection timeout value Valid values: 180~3600 (sec) Default value: 300 (sec) Type: Mandatory

5.4.12 cluster-cfg domain

Description Set cluster domain name

Syntax cluster-cfg domain <string>

Parameter

Name	Description
<string>	Cluster domain name

	Valid values: (max length 31) Default value: - Type: Mandatory
--	---

5.4.13 cluster-cfg management

Description Set cluster management IP configuration

Syntax cluster-cfg management {ip <ipv4 address> | netmask <netmask> | gateway <ipv4 address>}

Parameter

Name	Description
<ipv4 address>	IP address. Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: 0.0.0.0 Type: Mandatory
<netmask>	Netmask of the management port. Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: - Type: Optional

5.4.14 cluster-cfg name

Description Set the NE name in a cluster

Syntax cluster-cfg name <string>

Parameter

Name	Description
<string>	A name for NE Identification. Valid values: (max length 31) Default value: - Type: Mandatory

5.4.15 cluster-cfg role

Description Set cluster role to System-decide or Slave only or Not in a cluster (default)

Syntax cluster-cfg role {cluster | slave-only | individual}

Parameter None

5.4.16 cluster-cfg voting-key

Description Set cluster voting-key for the priority to be a Master

Syntax cluster-cfg voting-key <number>

Parameter

Name	Description
<number>	Cluster voting key. Valid values: 0 ~ 4294967295 Default value: 0 Type: Mandatory

5.4.17 dot1x

Description Go to 802.1x configuration mode

Syntax dot1x

Parameter None

5.4.18 dot1x disable

Description disable 802.1x authentication function of the system

Syntax dot1x disable

Parameter None

5.4.19 dot1x enable

Description Enable 802.1x authentication function of the system

Syntax dot1x enable

Parameter None

5.4.20 dsl-line-identify dhcp

Description Set DHCP Relay Option82 enable/disable

Syntax dsl-line-identify dhcp {enable | disable}

Parameter None

5.4.21 dsl-line-identify dhcp option82 circuit

Description Set DHCP Option82 Circuit ID type (default type is <DSLAM name>:<circuit number>:<vpi>:<vci>, or customer-defined type)

Syntax dsl-line-identify dhcp option82 circuit {default | customer}

Parameter None

5.4.22 dsl-line-identify dhcp option82 dslam-name

Description Set DSLAM name

Syntax dsl-line-identify dhcp option82 dslam-name <string>

Parameter

Name	Description
<string>	Set DSLAM name (max length 15) Default value: - Type: Mandatory

5.4.23 dsl-line-identify dhcp option82 dslam-name-cluster

Description Set DSLAM name by Cluster name

Syntax dsl-line-identify dhcp option82 dslam-name-cluster

Parameter None

5.4.24 dsl-line-identify dhcp option82 dslam-name-customer

Description Set DSLAM name by customer defined

Syntax dsl-line-identify dhcp option82 dslam-name-customer

Parameter None

5.4.25 dsl-line-identify dhcp option82 sub

Description Set DHCP Option82 sub mode (send Circuit ID/send Remote ID/send Both)

Syntax dsl-line-identify dhcp option82 sub {circuit | remote | both}

Parameter None

5.4.26 dsl-line-identify dhcp option82 remote

Description Set Remote ID type as Default / Line ID / Line Description / Line phone number / Customer (default type is <DSLAM name>:<bridge port index>; customer type means the customer-defined type)

Syntax dsl-line-identify dhcp option82 remote {default | line-id | line-descr | line-phone | customer}

Parameter None

5.4.27 dsl-line-identify pppoe srv-name

Description Set Service Name

Syntax dsl-line-identify pppoe srv-name <string>

Parameter

Name	Description
<string>	Set Service name Default value: - Type: Mandatory

5.4.28 dsl-line-identify pppoe srv-name-check

Description Disable/Enable PPPoE Service Name check

Syntax dsl-line-identify pppoe srv-name-check {disable | enable}

Parameter None

5.4.29 fdbstatic <number> {xdsl | gigabit}

Description Static MAC forwarding table setting

Syntax fdbstatic <number> xdsl <port>/<pvc> vlan <VLAN ID> mac <mac address> {deny | pass}
fdbstatic <number> gigabit <port> vlan <VLAN ID> mac <mac address> {deny | pass}

Parameter

Name	Description
<number>	Static MAC forwarding table number Valid values: 1~512 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<VLAN ID>	VLAN ID Valid values: 1 ~ 4094 Default value: - Type: Mandatory

<code><mac address></code>	MAC address Valid values: xx:xx:xx:xx:xx:xx (xx:00~ff) Default value: - Type: Mandatory
----------------------------------	---

5.4.30 fdbstatic <number> disable

Description Disable specify static MAC forwarding entry

Syntax fdbstatic <number> disable

Parameter

Name	Description
<code><number></code>	Static MAC forwarding table number Valid values: 1~512 Default value: - Type: Mandatory

5.4.31 fdbstatic list

Description Show static MAC forwarding table or specified static MAC forwarding entry

Syntax fdbstatic [<number>] list

Parameter

Name	Description
<code><number></code>	Static MAC forwarding table number Valid values: 1~512 Default value: - Type: Optional

5.4.32 firmware bootcode-upgrade

Description Get bootcode from FTP server and write to Flash ROM

Syntax firmware bootcode-upgrade <filename>

Parameter

Name	Description
<code><filename></code>	Boot code path and file name (max 31 characters) Default value: - Type: Mandatory

5.4.33 firmware login

Description Login FTP server that firmware image belongs to

Syntax firmware login <ipv4 address> username <name> password <password>

Parameter

Name	Description
<ipv4 address>	IPV4 address Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: - Type: Mandatory
<name>	User name (max 31 characters) Default value: - Type: Mandatory
<password>	Input password (max 31 characters) Default value: - Type: Mandatory

5.4.34 firmware partition

Description Set booting partition

Syntax firmware partition <number>

Parameter

Name	Description
<number>	Partition number Valid values: 1~2 Default value: - Type: Mandatory

5.4.35 firmware upgrade

Description Get firmware image from FTP server and write to Flash ROM

Syntax firmware upgrade <filename>

Parameter

Name	Description
<filename>	Path and File name (max 31 characters) Default value: - Type: Mandatory

5.4.36 http port

Description Set http server listening port

Syntax http port <port number>

Parameter

Name	Description
port number	The port number. Valid values: Integer range 0-65535 Default value: 80 Type: Mandatory

5.4.37 igmp acl

Description IGMP ACL control mode

Syntax igmp acl {enable | disable}

Parameter None

5.4.38 igmp default

Description IGMP set default

Syntax igmp [default]

Parameter None

5.4.39 igmp deny no-router-alert

Description Enable or disable the function that the system will deny IGMP packets that have no router alert option in their IP header. Default is “disable”; the system doesn’t care router alert option.

Syntax igmp deny no-router-alert {enable | disable}

Parameter None

5.4.40 igmp disable

Description Disable snooping mode and proxy mode

Syntax igmp disable

Parameter None

5.4.41 igmp max-group-limit

Description Enable or disable the function that maximum active counter of IGMP groups can be joined for every bridge port will be limited.

Syntax igmp max-group-limit {enable | disable}

Parameter None

5.4.42 igmp proxy

Description Enable GMP proxy snooping mode

Syntax igmp proxy

Parameter None

5.4.43 igmp snooping

Description Enable IGMP normal snooping mode

Syntax igmp snooping

Parameter None

5.4.44 igmp rtport gigabit

Description Set IGMP router port (giga1) and set IGMP router IP address

Syntax igmp rtport gigabit <port> vlan <VLAN ID> [disable | ip <ipv4 address>]

Parameter

Name	Description
<port>	Port number Valid values: 1 Default value: - Type: Mandatory
<VLAN ID>	VLAN ID Valid values: 1 ~ 4094 Default value: - Type: Mandatory
<ipv4 address>	Set router IP address for proxy mode IGMP general query packet reference. Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: 0.0.0.0 Type: Optional

5.4.45 igmp rtport list

Description Show IGMP router port list

Syntax igmp rtport list [<VLAN ID>]

Parameter

Name	Description
<VLAN ID>	VLAN ID Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.4.46 igmp timeout

Description IGMP timeout setting (BC/LMQT/MRT/Query/URI)
Syntax igmp timeout {bc | lmqt | mrt | query | uri} <number>
Parameter

Name	Description
<number>	Timeout value Valid values: 1~500 (second) Default value: BC: 400 LMQT: 1 MRT: 10 Query: 125 URI: 1 Type: Mandatory

5.4.47 igmp version

Description Set IGMP protocol version
Syntax igmp version {v1 | v2 | v3}
Parameter None

5.4.48 interface gigabit

Description Go to Gigabit Ethernet Interface execution mode from Configure mode
Syntax interface gigabit <port>
Parameter

Name	Description
<port>	Gigabit Ethernet port number Valid values: 1 Default value: - Type: Mandatory

5.4.49 interface xdsl

Description Go to xDSL Interface execution mode from Configure mode
Syntax interface xdsl <port>
Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.4.50 mac-spoofing-detect

Description Enable/Disable MAC spoofing detection

Syntax mac-spoofing-detect {enable | disable}

Parameter None

5.4.51 mac-spoofing-detect log

Description Enable/Disable MAC spoofing detection log

Syntax mac-spoofing-detect log {enable | disable}

Parameter None

5.4.52 management gbe

Description Set GBE port IP address

Syntax management gbe <ipv4 address>

Parameter

Name	Description
ipv4 address	IP address. Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: 0.0.0.0 Type: Mandatory

5.4.53 management gbe vlan

Description Set incoming VLAN tag management (only allowing incoming packets with the specified VLAN ID or no limit of VLAN ID)

Syntax management gbe vlan <VLAN ID> {no-limit | <VLAN ID>}

Parameter

Name	Description
<VLAN ID>	VLAN ID Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.4.54 management gbe vlan priority

Description Set priority level of the inband management traffic sent out from GBE port

Syntax management gbe vlan priority <prio ID>

Parameter

Name	Description
<prio ID>	Priority ID Valid values: 0 ~ 7 Default value: 0 Type: Mandatory

5.4.55 pm clear

Description Clear current performance monitoring data.

Syntax pm clear <port>

Parameter

Name	Description
<port>	Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.4.56 port-template mask

Description Mask the function (profile) of template line port. Mask means to select this item to be copied to other ports.

Syntax port-template mask {xdsl-lineconf | xdsl-profile | xdsl-adminstatus | dsl-identify-trust | pvc-vlan-bridge | igmp-acl | filter | priority-remark | priority-regen | ethernet-policer}

Parameter None

5.4.57 port-template unmask

Description Unmask the function (profile) of template line port. Un-Mask means not to select this item to be copied to other ports.

Syntax port-template unmask {xdsl-lineconf | xdsl-profile | xdsl-adminstatus | dsl-identify-trust | pvc-vlan-bridge | igmp-acl | filter | priority-remark | priority-regen | ethernet-policer}

Parameter None

5.4.58 port-template template-port

Description Select the template line port and pasted line port (copy configuration from template port)

Syntax port-template template-port <port> paste-port <port>

Parameter

Name	Description
<port>	XDSL Port number Valid values: 1~24(48) Default value: - Type: Mandatory

5.4.59 priority-list

Description Go to Priority-list execution mode from Configure mode.

Syntax priority-list

Parameter None

5.4.60 priority-queue atm priority

Description Set ATM interface priority queue mapping

Syntax priority-queue atm priority <prio ID> queue <number>

Parameter

Name	Description
<prio ID>	Priority ID Valid values: 0 ~ 7 Default value: 0 Type: Mandatory
<number>	Priority queue value. Valid values: 0 ~ 7 Default value: - Type: Mandatory

5.4.61 priority-queue atm queue0-weight

Description Set weight value of ATM Priority Queue 0

Syntax priority-queue atm queue0-weight <number>

Parameter

Name	Description
<number>	Weight value of ATM Priority Queue 0 Valid values: 1 ~ 255 Default value: 10 Type: Mandatory

5.4.62 priority-queue atm queue1-weight

Description Set weight value of ATM Priority Queue 1

Syntax priority-queue atm queue1-weight <number>

Parameter

Name	Description
<number>	Weight value of ATM Priority Queue 1 Valid values: 1 ~ 255 Default value: 20 Type: Mandatory

5.4.63 priority-queue atm queue2-weight

Description Set weight value of ATM Priority Queue 2

Syntax priority-queue atm queue2-weight <number>

Parameter

Name	Description
<number>	Weight value of ATM Priority Queue 2 Valid values: 1 ~ 255 Default value: 30 Type: Mandatory

5.4.64 priority-queue atm queue3-weight

Description Set weight value of ATM Priority Queue 3

Syntax priority-queue atm queue3-weight <number>

Parameter

Name	Description
<number>	Weight value of ATM Priority Queue 3 Valid values: 1 ~ 255 Default value: 40 Type: Mandatory

5.4.65 priority-queue atm scheduling

Description Set priority queue scheduling only support SPQ mode or support SQP and WFQ modes

Syntax priority-queue atm scheduling {sqp | spq-wfq}

Parameter None

5.4.66 priority-queue gigabit priority

Description Set gigabit interface priority queue mapping

Syntax priority-queue atm priority <prio ID> queue <number>

Parameter

Name	Description
<prio ID>	Priority ID Valid values: 0 ~ 7 Default value: 0 Type: Mandatory
<number>	Priority queue value. Valid values: 0 ~ 3 Default value: - Type: Mandatory

5.4.67 profile alarm

Description Enter this command to go to alarm profile configuration mode.

Syntax profile alarm

Parameter None

5.4.68 profile igmp-acl

Description Enter this command to go to IGMP ACL profile configuration mode

Syntax profile igmp-acl <profile index>

Parameter

Name	Description
<profile index>	Profile index Valid values: 1~15 Default value: - Type: Mandatory

5.4.69 profile service adsl

Description Enter this command to go to service profile configuration mode or delete a service profile

Syntax profile service adsl <profile index> [disable]

Parameter

Name	Description
<profile index>	Profile index Valid values: 2 ~ 120

	Default value: - Type: Mandatory
--	---

5.4.70 profile spectrum

Description Enter this command to go to spectrum profile configuration mode or delete a spectrum profile

Syntax profile spectrum {adsl2 | adsl2plus | readsl2} <profile index>
[disable]

Parameter

Name	Description
profile index	Profile index Valid values: 2 ~ 120 Default value: - Type: Mandatory

5.4.71 profile tca xdsl

Description Enter this command to go to TCA profile configuration mode or delete the specified TCA profile

Syntax profile tca xdsl <index> [disable]

Parameter

Name	Description
<index>	TCA profile index. Valid values: 2~64 Default value: - Type: Mandatory

5.4.72 profile rate-limit

Description Enter this command to go to rate-limit profile configuration mode

Syntax profile tca xdsl <index> [disable]

Parameter None

5.4.73 remotecfg login

Description Login FTP server to get remote configuration and load it to running configuration or write remote configuration to memory

Syntax remotecfg login <ipv4 address> get <filename> {load | write partition <number>}

Parameter

Name	Description
<ipv4 address>	IP address of TFTP server. Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: - Type: Mandatory
<filename>	Remote path and file name (max 31 character) Default value: - Type: Mandatory
<number>	Partition number Valid values: 1~2 Default value: - Type: Mandatory

5.4.74 restore-factory

Description Restore factory setting (User needs to restart the system after restore-factory to make the setting take effect.)

Syntax restore-factory

Parameter None

5.4.75 rmon alarm <index> alarm_interval

Description Set RMON alarm interval

Syntax rmon alarm <index> alarm_interval <number>

Parameter

Name	Description
<index>	RMON alarm entry index Valid values: 1~64 Default value: - Type: Mandatory
<number>	Alarm interval. Valid values: 0~2147483647 (0: disable)

	Default value: - Type: Mandatory
--	---

5.4.76 rmon alarm <index> delete

Description Delete RMON alarm entry

Syntax rmon alarm <index> delete <number>

Parameter

Name	Description
<index>	RMON alarm entry index Valid values: 1~64 Default value: - Type: Mandatory

5.4.77 rmon alarm <index> falling_eventindex

Description Set RMON alarm falling event index

Syntax rmon alarm <index> falling_eventindex <number>

Parameter

Name	Description
<index>	RMON alarm entry index Valid values: 1~64 Default value: - Type: Mandatory
<number>	RMON alarm falling event index Valid values: 1~128 Default value: - Type: Mandatory

5.4.78 rmon alarm <index> falling_threshold

Description Set RMON alarm falling threshold

Syntax rmon alarm <index> falling_threshold <number>

Parameter

Name	Description
<index>	RMON alarm entry index Valid values: 1~64 Default value: - Type: Mandatory

<number>	RMON alarm falling threshold Valid values: 0~4294967295 Default value: - Type: Mandatory
----------	--

5.4.79 rmon alarm <index> owner

Description RMON alarm owner

Syntax rmon alarm <index> owner <string>

Parameter

Name	Description
<string>	Owner name. Valid values: (max 31 characters) Default value: - Type: Mandatory

5.4.80 rmon alarm <index> rising_eventindex

Description Set RMON alarm rising event index

Syntax rmon alarm <index> rising_eventindex <number>

Parameter

Name	Description
<index>	RMON alarm entry index Valid values: 1~64 Default value: - Type: Mandatory
<number>	RMON alarm rising event index Valid values: 1~128 Default value: - Type: Mandatory

5.4.81 rmon alarm <index> rising_threshold

Description Set RMON alarm rising threshold

Syntax rmon alarm <index> rising_threshold <number>

Parameter

Name	Description
<index>	RMON alarm entry index Valid values: 1~64

	Default value: - Type: Mandatory
<number>	RMON alarm rising threshold Valid values: 0~4294967295 Default value: - Type: Mandatory

5.4.82 rmon alarm <index> sample_type

Description RMON alarm sample type (Compared directly with the thresholds or Difference compared with the thresholds)

Syntax rmon alarm <index> sample_type {absolute | delta}

Parameter

Name	Description
<index>	RMON alarm entry index Valid values: 1~64 Default value: - Type: Mandatory

5.4.83 rmon alarm <index> startup_alarm

Description RMON startup alarm (Rising threshold alarm, Falling threshold alarm or Both rising and falling threshold alarm)

Syntax rmon alarm <index> startup_alarm {rising | falling | both}

Parameter

Name	Description
<index>	RMON alarm entry index Valid values: 1~64 Default value: - Type: Mandatory

5.4.84 rmon alarm <index> variable

Description Source sample in statistic table

Variable	Description
rx_broadcast	Monitoring rx broadcast packets
rx_bytes	Monitoring rx bytes packets
rx_dropped	Monitoring rx dropped packets
rx_err_aligment	Monitoring rx error aligment packets

rx_fragments	Monitoring rx fragments packets
rx_jabber	Monitoring rx jabber packets
rx_multicast	Monitoring rx multicast packets
rx_oversize	Monitoring rx oversize packets
rx_packets	Monitoring rx packets
rx_undersize	Monitoring rx undersize packets
tx_single_collision	Monitoring tx single collision packets
txrx_frames_64	Monitoring tx 64 octets
txrx_frames_127	Monitoring tx 65 to 127 octets
txrx_frames_255	Monitoring tx 128 to 255 octets
txrx_frames_511	Monitoring tx 256 to 511 octets
txrx_frames_1023	Monitoring tx 512 to 1023 octets
txrx_frames_1518	Monitoring tx 1024 to 1518 octets

Syntax rmon alarm <index> variable {rx_broadcast | rx_bytes | rx_dropped | rx_err_alignment | rx_fragments | rx_jabber | rx_multicast | rx_oversize | rx_packets | rx_undersize} index <number>

rmon alarm <index> variable {tx_single_collision | txrx_frames_64 | txrx_frames_127 | txrx_frames_255 | txrx_frames_511 | txrx_frames_1023 | txrx_frames_1518} index <number>

Parameter

Name	Description
<index>	RMON alarm entry index Valid values: 1~64 Default value: - Type: Mandatory
<number>	Source index in statistic table Valid values: 1~10 Default value: - Type: Mandatory

5.4.85 rmon event <index> community

Description Set RMON event community

Syntax rmon event <index> community <string>

Parameter

Name	Description
<index>	RMON event entry index

	Valid values: 1~128 Default value: - Type: Mandatory
<string>	RMON event community Valid values: string type value. (max 31 characters) Default value: - Type: Mandatory

5.4.86 rmon event <index> delete

Description Delete RMON event entry

Syntax rmon event <index> delete

Parameter

Name	Description
<index>	RMON event entry index Valid values: 1~128 Default value: - Type: Mandatory

5.4.87 rmon event <index> description

Description Description for the RMON event

Syntax rmon event <index> description <string>

Parameter

Name	Description
<index>	RMON event entry index Valid values: 1~128 Default value: - Type: Mandatory
<string>	Event description Valid values: string type value. (max 31 characters) Default value: - Type: Mandatory

5.4.88 rmon event <index> owner

Description Set RMON event owner

Syntax rmon event <index> owner <string>

Parameter

Name	Description
<index>	RMON event entry index Valid values: 1~128 Default value: - Type: Mandatory
<string>	Owner name Valid values: string type value. (max 31 characters) Default value: - Type: Mandatory

5.4.89 rmon event <index> type

Description Set RMON event type (no alarm, only syslog, only SNMP trap, or both syslog and SNMP trap)

Syntax rmon event <index> type {none | log | trap | both}

Parameter

Name	Description
<index>	RMON event entry index Valid values: 1~128 Default value: - Type: Mandatory

5.4.90 rmon history <index> buckets_requested

Description Set RMON history buckets requested

Syntax rmon history <index> buckets_requested <number>

Parameter

Name	Description
<index>	RMON history control entry index Valid values: 1~10 Default value: - Type: Mandatory
<number>	Buckets requested value

	Valid values: 1~65535 Default value: - Type: Mandatory
--	---

5.4.91 rmon history <index> delete

Description Delete RMON history entry

Syntax rmon history <index> delete

Parameter

Name	Description
<index>	RMON history control entry index Valid values: 1~10 Default value: - Type: Mandatory

5.4.92 rmon history <index> ifc

Description Set Physical interface

Syntax rmon history <index> ifc <number>

Parameter

Name	Description
<index>	RMON history control entry index Valid values: 1~10 Default value: - Type: Mandatory
<number>	Physical interface index Valid values: 1~2 Default value: - Type: Mandatory

5.4.93 rmon history <index> interval

Description Set RMON history interval

Syntax rmon history <index> interval <number>

Parameter

Name	Description
<index>	RMON history control entry index Valid values: 1~10 Default value: -

	Type: Mandatory
<number>	History interval Valid values: 1~3600 (sec) Default value: - Type: Mandatory

5.4.94 rmon history <index> owner

Description Set RMON history owner

Syntax rmon history <index> owner <string>

Parameter

Name	Description
<index>	RMON history control entry index Valid values: 1~10 Default value: - Type: Mandatory
<string>	Owner name Valid values: string type value. (max 31 characters) Default value: - Type: Mandatory

5.4.95 rmon statistic <index> delete

Description Delete RMON statistic entry

Syntax rmon statistic <index> delete

Parameter

Name	Description
<index>	RMON statistic entry index Valid values: 1~10 Default value: - Type: Mandatory

5.4.96 rmon statistic <index> ifc

Description Set Physical interface

Syntax rmon statistic <index> ifc <number>

Parameter

Name	Description
<index>	RMON history control entry index Valid values: 1~10 Default value: - Type: Mandatory
<number>	Physical interface index Valid values: 1~2 Default value: - Type: Mandatory

5.4.97 rmon statistic <index> owner

Description Set RMON statistic owner

Syntax rmon statistic <index> owner <string>

Parameter

Name	Description
<index>	RMON history control entry index Valid values: 1~10 Default value: - Type: Mandatory
<string>	Owner name Valid values: string type value. (max 31 characters) Default value: - Type: Mandatory

5.4.98 route

Description Add routing to route table

Syntax route <ipv4 address > netmask <ipv4 address > gateway <ipv4 address >

Parameter

Name	Description
<ipv4 address>	IP address.

	Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: - Type: Mandatory
--	---

5.4.99 route default

Description Set default route

Syntax route default <ipv4 address>

Parameter

Name	Description
<ipv4 address>	Default route IP address. Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: - Type: Mandatory

5.4.100 route delete

Description Delete routing from route table

Syntax route delete <ipv4 address> netmask <ipv4 address>

Parameter

Name	Description
<ipv4 address>	IP address. Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: - Type: Mandatory

5.4.101 runningcfg active partition

Description There are two memory partitions for storing the configuration data. This command allows you to select the flash boot point (partition) for next power-on.

Syntax runningcfg active partition <number>

Parameter

Name	Description
<number>	Partition number Valid values: 1~2 Default value: - Type: Mandatory

5.4.102 runningcfg load partition

Description Load running configuration from memory

Syntax runningcfg load partition <number>

Parameter

Name	Description
<number>	Partition number Valid values: 1~2 Default value: - Type: Mandatory

5.4.103 runningcfg login

Description Login FTP server

Syntax runningcfg login <ipv4 address> put <filename>

Parameter

Name	Description
<ipv4 address>	IP address of TFTP server. Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: - Type: Mandatory
<filename>	Path and File name (max 31 characters) Default value: - Type: Mandatory

5.4.104 runningcfg write partition

Description Write running configuration to memory

Syntax runningcfg write partition <number>

Parameter

Name	Description
<number>	Partition number Valid values: 1~2 Default value: - Type: Mandatory

5.4.105 snmp <index> community

Description Set SNMP read only or read/write community string

Syntax snmp <index> community {ro | rw} <community>

Parameter

Name	Description
------	-------------

<index>	SNMP community index Valid values: 1~32 Default value: - Type: Mandatory
<community>	Community string. (max 31 character; note that community names beginning with a digital number are not allowed) Default value: public Type: Mandatory

5.4.106 snmp notify

Description Set SNMP notify information / Delete SNMP notify tag

Syntax snmp notify <name> {tag <tag> | delete}

Parameter

Name	Description
<name>	Notify name string. (max 31 characters) Default value: - Type: Mandatory
<tag>	Notify Tag string. (max 31 characters) Default value: - Type: Mandatory

5.4.107 snmp target <name> address

Description Set SNMP target address

Syntax snmp target <name> address <ipv4 address> port <port>

Parameter

Name	Description
<name>	SNMP target name Valid values: (max 31 characters) Default value: - Type: Mandatory
<ipv4 address>	Target IP address Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: - Type: Mandatory
<port>	SNMP target port Valid values: 1~65535

	Default value: 162 Type: Mandatory
--	---

5.4.108 snmp target <name> delete

Description Delete SNMP target tag list

Syntax snmp target <name> delete

Parameter

Name	Description
<name>	SNMP target name Valid values: (max 31 characters) Default value: - Type: Mandatory

5.4.109 snmp target <name> tag-list

Description Set SNMP target tag list

Syntax snmp target <name> tag-list <string>

Parameter

Name	Description
<name>	SNMP target name Valid values: (max 31 characters) Default value: - Type: Mandatory
<string>	SNMP target tag list Valid values: (max 31 characters) Default value: - Type: Mandatory

5.4.110 snmp target <name> version

Description Set SNMP target trap version to V1 or V2C

Syntax snmp target <name> version {v1 | v2c}

Parameter

Name	Description
<name>	SNMP target name Valid values: (max 31 characters) Default value: - Type: Mandatory

5.4.111 sntp polling interval

Description Set SNTP polling interval

Syntax sntp polling interval <number>

Parameter

Name	Description
number	Polling interval (in seconds) Valid values: 60~65535 Default value: 600 Type: Mandatory

5.4.112 sntp server address

Description Set SNTP server ip address

Syntax snmp server address <ipv4 address>

Parameter

Name	Description
<ipv4 address>	IP address of SNTP server. Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: 0.0.0.0 Type: Mandatory

5.4.113 syslog server

Description Set system log server

Syntax syslog server <ipv4 address>

Parameter

Name	Description
<ipv4 address>	Syslog server IP address Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: 0.0.0.0 Type: Mandatory

5.4.114 tcm color-aware

Description Set Color Aware or Color Blind TCM Policer

Syntax tcm color-aware {aware | blind}

Parameter None

5.4.115 tcm color-field

Description Set TCM color field to be VLAN priority or DSCP.

Syntax tcm color-field {vprio | dscp}

Parameter None

5.4.116 tcm green

Description Set TCM green color value

Syntax tcm green <number>

Parameter

Name	Description
<number>	TCM green color value Valid values: 0 ~ 7 for VLAN priority color field; 0 ~ 63 for DSCP color field Default value: 1 Type: Mandatory

5.4.117 tcm non-conform-pkt

Description Set the action for non-conforming packets: discard or tag. If “Tag” is selected, then all the packets will be marked as green, yellow, or red in the Color field.

Syntax tcm non-conform-pkt {discard | tag}

Parameter None

5.4.118 tcm red

Description Set TCM red color value

Syntax tcm red <number>

Parameter

Name	Description
<number>	TCM red color value Valid values: 0 ~ 7 for VLAN priority color field; 0 ~ 63 for DSCP color field Default value: 7 Type: Mandatory

5.4.119 tcm yellow

Description Set TCM yellow color value

Syntax tcm yellow <number>

Parameter

Name	Description
<number>	TCM yellow color value Valid values: 0 ~ 7 for VLAN priority color field; 0 ~ 63 for DSCP color field Default value: 3 Type: Mandatory

5.4.120 temperature threshold

Description Shelf temperature threshold

Syntax temperature threshold {up | down | fan} <number>

Parameter

Name	Description
<number>	Temperature threshold value. Valid values: up: -55~85 Down: -55~85 fan: -40~15 Default value: up: 65 down: 65 fan: -40 Type: Mandatory

5.4.121 temperature shelf time

Description Shelf time

Syntax temperature shelf time {up | down} <number>

Parameter

Name	Description
<number>	Shelf time value. Valid values: 1~255 Default value: 10 Type: Mandatory

5.4.122 time set date

Description Set date of the system (default is current system date)

Syntax time set date {MM-DD-YY | MM-DD-CCYY}

Parameter

Name	Description
MM	Month. Valid values: 01-12 Type: Mandatory
DD	Day of month. Valid values: 01-31 Type: Mandatory
CC	Century. Valid values: 0 Type: Optional
YY	Short year start from 2000. Valid values: 00-99 Type: Mandatory

5.4.123 time set time

Description Set time of the system (default is current system time)

Syntax time set time {hh:mm | hh:mm:ss}

Parameter

Name	Description
hh	Hour in 24 hour format Valid values: 00-23 Type: Mandatory
mm	Minute. Valid values: 00-59 Type: Mandatory
ss	Second Valid values: 00-59 Type: Optional

5.4.124 time set timezone

Description Set timezone

Syntax time set timezone <timezone>

Parameter

Name	Description
timezone	<p>Timezone</p> <p>Type: Mandatory</p> <p>Valid values: Given below.</p> <ul style="list-style-type: none"> idl (GMT-12:00) International Date Line idlw (GMT-12:00) International Date Line West nt (GMT-11:00) Nome Time ahst (GMT-10:00) Alaska GMT Hawaii Standard Time hst (GMT-10:00) Hawaiian Standard Time bdst (GMT-10:00) BDT cat (GMT-10:00) Central Alaska Time yst (GMT-09:00) Yukon Standard Time hdt (GMT-09:00) HDT pst (GMT-08:00) Pacific Standard Time ydt (GMT-08:00) YDT mst (GMT-07:00) Mountain Standard Time pdst (GMT-07:00) Pacific Daylight Time cst (GMT-06:00) Central Standard Time mdt (GMT-06:00) Mountain Daylight Time est (GMT-05:00) Eastan Standard Time cdt (GMT-05:00) Central Daylight Time ast (GMT-04:00) Atlantic Standard Time edt (GMT-04:00) Eastan Daylight Time nst (GMT-03:30) Newfoundland Standard Time adt (GMT-03:00) Altantic Daylight Time bst (GMT-03:00) Brazil Standard Time gst (GMT-03:00) Greenland Standard Time at (GMT-02:00) Azores Time wat (GMT-01:00) West Africa Time gmt (GMT) Greenwich Mean Time wet (GMT+00:00) Western European Time ut (GMT+00:00) Universal Time utc (GMT+00:00) Universal Time cet (GMT+01:00) Central European Time met (GMT+01:00) Middle European Time mewt (GMT+01:00) Middle Eruopean Winter Time swt (GMT+01:00) Swedish Winter Time fwt (GMT+01:00) French Winter Time eet (GMT+02:00) Eastean European Time mest (GMT+02:00) Middle European Summer Time fst (GMT+02:00) French Summer Time es (GMT+02:00) Egypt Standard Time ed (GMT+03:00) Egypt Daylight Time bt (GMT+03:00) Baghdad Time it (GMT+03:30) Iran Time zp4 (GMT+04:00) GMT Plus 4 Hours zp5 (GMT+05:00) GMT Plus 5 Hours ist (GMT+05:30) Indian Standard Time zp6 (GMT+06:00) GMT Plus 6 Hours sst (GMT+07:00) South Smatra Time wast (GMT+07:00) West Australian Standard Time jt (GMT+07:30) Java Time cct (GMT+08:00) China Coast Time hst (GMT+08:00) HongKong Standard Time

wadt	(GMT+08:00) West Australian Daylight Time
wst	(GMT+08:00) WST
jst	(GMT+09:00) Japan Standard Time
kst	(GMT+09:00) Korean Standard Time
cast	(GMT+09:30) Central Australian Standard Time
sast	(GMT+09:30) South Australian Standard Time
jdt	(GMT+10:00) JDT
gst	(GMT+10:00) Guam Standard Time
east	(GMT+10:00) East Australian Standard Time
cadt	(GMT+10:30) Central Australian Daylight Time
sadt	(GMT+10:30) South Australian Daylight Time
eadt	(GMT+11:00) East Australian Daylight Time
nzt	(GMT+12:00) New Zealand Time
nzst	(GMT+12:00) New Zealand Standard Time
idle	(GMT+12:00) International Date Line East
nzdt	(GMT+13:00) New Zealand Daylight Time

5.4.125 vlan ethertype s-tag

Description Set VLAN S-Tag Ether Type value

Syntax vlan ethertype s-tag <number>

Parameter

Name	Description
<number>	S-Tag Ether type value Valid values: 0x0001 ~ 0xffff Default value: 0x8100 Type: Mandatory

5.4.126 vlan protocol-base

Description Set Protocol Based VLAN table / Delete the specified entry from Protocol Based VLAN table

Syntax vlan protocol-base <index> {ethertype <number> vlan <VLAN ID> | disable}

Parameter

Name	Description
<index>	Protocol Based VLAN table index. Valid values: 1 ~ 32 Default value: - Type: Mandatory
<number>	Ether type value Valid values: 0x0001 ~ 0xffff Default value: - Type: Mandatory
<VLAN ID>	VLAN ID Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.4.127 vlan-translation <port>/<pvc> <VLAN ID> gigabit <port> one-to-one

Description Set one-to-one VLAN translation

Syntax 1. C-tag reserved

vlan-translation <port>/<pvc> <user port VLAN ID> gigabit <port>
one-to-one reserved {priority-reserved | priority-replaced <PRIO ID>}

2. C-tag replaced

vlan-trans vlan-translation <port>/<pvc> <user port VLAN ID> gigabit
<port> one-to-one replaced <uplink VLAN ID> {priority-reserved |
priority-replaced <PRIO ID>}

3. Stacking and C-tag reserved

vlan-trans vlan-translation <port>/<pvc> <user port VLAN ID> gigabit
<port> one-to-one stacking <uplink VLAN ID> {priority-reserved |
priority-replaced <PRIO ID>}

4. Stacking and C-tag replaced

vlan-translation <port>/<pvc> <user port VLAN ID> gigabit <port>
one-to-one stacking <uplink VLAN ID> ctag-replaced <c-tag VLAN ID>
<c-tag PRIO ID> {priority-reserved | priority-replaced <PRIO ID>}

Parameter

Name	Description
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<user port VLAN ID>	ADSL port VLAN ID Valid values: 1 ~ 4094 Default value: - Type: Mandatory
<uplink VLAN ID>	Gigabit uplink port VLAN ID Valid values: 1 ~ 4094 Default value: - Type: Mandatory
<PRIO ID>	Replaced the priority level of packets out through the uplink port with the

	specified value. Valid values: 0 ~ 7 Default value: - Type: Mandatory
--	---

5.4.128 vlan-translation <port>/<pvc> <VLAN ID> gigabit <port> many-to-one

Description Set many-to-one VLAN translation

Syntax vlan-translation <port>/<pvc> <user port VLAN ID> gigabit <port>
 many- to-one replaced <uplink VLAN ID> {priority-reserved |
 priority-replaced <PRIO ID>}

Parameter

Name	Description
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<user port VLAN ID>	ADSL port VLAN ID Valid values: 1 ~ 4094 Default value: - Type: Mandatory
<uplink VLAN ID>	Gigabit uplink port VLAN ID Valid values: 1 ~ 4094 Default value: - Type: Mandatory
<PRIO ID>	Replaced the priority level of packets out through the uplink port with the specified value. Valid values: 0 ~ 7 Default value: - Type: Mandatory

5.4.129 vlan-translation <port>/<pvc> <VLAN ID> disable

Description Delete the specified entry from the VLAN translation table.

Syntax vlan-translation <port>/<pvc> <VLAN ID> disable

Parameter

Name	Description
<port>	ADSL Port number. Valid values: 1~24(48) Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<VLAN ID>	ADSL port VLAN ID Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.5 Ethernet Interface Mode Commands

The commands in this section can be executed only in the Ethernet Interface execution mode.

5.5.1 bridge

Description	Enter bridge configuration mode / Set bridge port to default status
Syntax	bridge [default]
Parameter	None

5.5.2 gbe admin

Description	Set Gigabit Ethernet administrative status (ON/OFF)
Syntax	gbe admin {on off}
Parameter	None

5.5.3 gbe speed

Description	Set Gigabit ethernet speed to auto-negotiate, 100Mbps half duplexing, or 100Mbps full duplexing
Syntax	gbe speed {auto half_100mbps full_100mbps }
Parameter	None

5.6 Interface Mode Commands

The commands in this section can be executed only in the Interface execution mode.

5.6.1 bridge

Description Enter ATM-bridge configuration mode / Disable bridge port

Syntax bridge <bridge id> [disable]

Parameter

Name	Description
bridge id	Bridge number. Valid values: 1-8 Default value: 1 Type: Mandatory

5.6.2 adsl-config

Description Enter adsl configuration mode

Syntax adsl-config

Parameter None

5.6.3 ipoa

Description Enter IPoA (RFC 2684) routed mode

Syntax ipoa

Parameter None

5.7 ATM Bridge Mode Commands

The commands in this section can be executed only in the ATM Bridge execution mode.

5.7.1 accfrm

Description Set acceptable frame type (untagged only, tagged only, or all)

Syntax accfrm {all | tag | untag}

Parameter None

5.7.2 accounting disable

Description Disable accounting after authentication

Syntax accounting disable

Parameter None

5.7.3 accounting enable

Description Enable accounting after authentication

Syntax accounting enable

Parameter None

5.7.4 auth disable

Description Disable port authentication

Syntax auth disable

Parameter None

5.7.5 auth enable

Description Enable port authentication

Syntax auth enable

Parameter None

5.7.6 auth-sever-timeout

Description 802.1x Timeout for Radius Retries

Syntax auth-server-timeout <number>

Parameter

Name	Description
<number>	Timeout for Radius Retries Valid values: 1 ~ 65534 Default value: 60 Type: Mandatory

5.7.7 auth-supp-timeout

Description 802.1x Timeout for requesting the supplicant to retry

Syntax auth-supp-timeout <number>

Parameter

Name	Description
<number>	Timeout for Supplicant retries Valid values: 1 ~ 65534 Default value: 60 Type: Mandatory

5.7.8 auth-tx-period

Description 802.1x Timeout for Supplicant Re-transmissions before sending the request

Syntax auth-tx-period <number>

Parameter

Name	Description
<number>	Timeout for Supplicant Re-transmissions Valid values: 1 ~ 65534 Default value: 60 Type: Mandatory

5.7.9 default vlan

Description Set default VLAN ID for a bridge port

Syntax default vlan <VLAN ID>

Parameter

Name	Description
<VLAN ID>	VLAN ID Valid values: 1 ~ 4094 Default value: 1 Type: Mandatory

5.7.10 default prio

Description Set default priority value for a bridge port

Syntax default prio <prio ID>

Parameter

Name	Description
<prio ID>	Priority ID Valid values: 0 ~ 7 Default value: 0 Type: Mandatory

5.7.11 dhcp-relay

Description Enable/disable DHCP relay, or Set circuit ID/remote ID for identifying the subscriber

Syntax dhcp-relay {trusted | untrusted | circuit <circuit ID> | remote <remote ID>}

Parameter

Name	Description
<circuit ID>	Circuit ID Valid values: string type (max length 48) Default value: - Type: Mandatory
<remote ID>	Remote ID Valid values: string type (max length 48) Default value: - Type: Mandatory

5.7.12 egress

Description Default PVID egress tagged/untagged setting

Syntax egress {tag | untag}

Parameter None

5.7.13 force priority

Description Force priority setting (**disabled**: reserve the original priority of all packets. **egress**: force the priority value of all packets sent out from this bridge port's default VLAN to be the default VLAN priority, so this rule only works on default VLAN of this bridge port. **ingress**: force applying the default VLAN priority value to all the packets received on this bridge port (so this rule will work on all the member-set of this bridge port). **both**: combine the rules of Ingress and Egress.

Syntax force priority {disable | engress | ingress | both}

Parameter None

5.7.14 igmp-acl bind

Description IGMP ACL (Access Control List) binding profile configuration

Syntax igmp-acl bind {<number> [on] | on | off | reset}

Parameter

Name	Description
<number>	IGMP ACL profile index. Valid values: 1 ~ 15 Default value: 0 Type: Mandatory

5.7.15 igmp-acl max-group

Description Per port limit IGMP join group number

Syntax igmp-acl max-group <number>

Parameter

Name	Description
<number>	IGMP ACL profile index. Valid values: 1 ~ 128 Default value: 8 Type: Mandatory

5.7.16 ingress

Description Enable/disable ingress filter mode

Syntax ingress {enable | disable}

Parameter None

5.7.17 interim-interval

Description 802.1x Timeout for Accounting Information Update

Syntax interim-interval <number>

Parameter

Name	Description
<number>	Timeout for Accounting Information Updated. Valid values: 60 ~ 600 Default value: 300 Type: Mandatory

5.7.18 ip-allowed

Description Enable/disable IP allowed function (user can specify allowed source IP address per bridge port)

Syntax ip-allowed {enable | disable}

Parameter None

5.7.19 isolation

Description Enable/Disable default PVID isolation setting

Syntax isolation [disable]

Parameter None

5.7.20 mac-learning

Description Enable/disable MAC learning ability of a bridge port

Syntax max-learning {enable | disable}

Parameter None

5.7.21 max-reauth-req

Description 802.1x Max No. of Retries to supplicant (sending requests to the authentication server if no response is received)

Syntax max-reauth-req <number>

Parameter

Name	Description
<number>	Max number of retries. Valid values: 1~ 10 Default value: 2 Type: Mandatory

5.7.22 max-req

Description 802.1x Max No. of Retries to supplicant for EAP-Request frames of types other than EAP-Request / Identity

Syntax max-req <number>

Parameter

Name	Description
<number>	Max number of retries. Valid values: 1~ 10 Default value: 2 Type: Mandatory

5.7.23 max-mac

Description Set the maximum users allowed to access Internet based on user MAC address counter on per ATM PVC basis

Syntax max-mac <number>

Parameter

Name	Description
<number>	Maximum number of the MAC addresses Valid values: 1 ~ 128 Default value: 0 Type: Mandatory

5.7.24 port-control auto

Description Auto (default)

Syntax Set to the system default authentication state for the port

Parameter none

5.7.25 port-control force-authorized

Description Force this port authorized state

Syntax port-control force-authorized

Parameter none

5.7.26 port-control force-unauthorized

Description Force this port unauthorized state

Syntax port-control force-unauthorized

Parameter none

5.7.27 priority-regen

Description VLAN priority value regeneration or Delete VLAN priority tag filter

Syntax priority-regen incoming <incoming prio> {outgoing <outgoing prio> | disable}

Parameter

Name	Description
<incoming prio>	Incoming VLAN priority value Valid values: 0 ~ 7 Default value: - Type: Mandatory
<outgoing prio>	Outgoing VLAN priority value Valid values: 0 ~ 7 Default value: - Type: Mandatory

5.7.28 protocol-base

Description Enable/disable protocol-based VLAN

Syntax protocol-base {enable | disable}

Parameter None

5.7.29 pvc

Description Set VPI and VCI

Syntax pvc <VPI>/<VCI>

Parameter

Name	Description
<VPI>	Virtual Path Identifier. Valid values: 0 ~ 255 Default value: 0 Type: Mandatory
<VCI>	Virtual Channel Identifier. Valid values: 21, 32~65535 Default value: 35 Type: Mandatory

5.7.30 pvc atmdesc

Description List ATM traffic descriptor

Syntax pvc atmdesc

Parameter None

5.7.31 pvc atmdesc plc

Description Set ATM police (Rx) descriptor

Syntax pvc atmdesc plc <number>

Parameter

Name	Description
<number>	ATM descriptor number. Valid values: Enter 'pvc atmdesc' command to see the descriptor list. Default value: - Type: Mandatory

5.7.32 pvc atmdesc shp

Description Set ATM shaped (Tx) descriptor

Syntax pvc atmdesc shp <number>

Parameter

Name	Description
<number>	ATM descriptor number. Valid values: Enter 'pvc atmdesc' command to see the descriptor list. Default value: - Type: Mandatory

5.7.33 pvc encapsulation

Description Set Encapsulation type

Syntax pvc encapsulation {llc | vcmux | auto}

Parameter None

Note: The IDL-2402 supports auto-detection of the ATM AAL5 encapsulation method, LLC or VC-Mux. Meanwhile, the IDL-2402 is also able to automatically sense the following protocol encapsulations: PPPoE over ATM (per RFC 2684), IPoE over ATM bridge mode, and PPP over ATM. IPoA works on individual PVC.

However, there are limitations on auto-detection of encapsulations:

1. LLC/VC-Mux automatically detection is only applicable to PVC#1 ~ PVC#4 of each ADSL port. PVC#5 ~ PVC#8 must be assigned the ATM AAL5 encapsulation method manually.
2. PPPoA works only for PVC#1 ~ PVC#4.

Refer to section 5.11 for IPoA configuration commands.

5.7.34 quiet-period

Description 802.1x Quiet Period in Seconds (The period that 802.1x system stay in the quiet state)

Syntax quiet-period <number>

Parameter

Name	Description
<number>	Timeout for quiet period.

	Valid values: 1~ 65534. Default value: 60 Type: Mandatory
--	--

5.7.35 reauthentication disable

Description Disable Reauthentication for this port

Syntax reauthentication disable

Parameter none

5.7.36 reauthentication enable

Description Enable Reauthentication for this port

Syntax reauthentication enable

Parameter none

5.7.37 reauth-period

Description 802.1x Time after which an automatic re-authentication should be initiated

Syntax reauth-period <number>

Parameter

Name	Description
<number>	Re-authentication period. Valid values: 1~ 65534. Default value: 3600 Type: Mandatory

5.7.38 stack

Description Enable/disable VLAN stacking

Syntax stack {enable | disable}

Parameter None

5.7.39 stack tls port enable

Description Enable VLAN stack TLS (transparent LAN service) port

Syntax stack tls port {enable | disable}

Parameter None

5.7.40 tcm-policer

Description Bind/Unbind Three Color Marking (TCM) Policer profile

Syntax tcm-policer <number> {bind | unbind}

Parameter

Name	Description
<number>	TCM policer profile index. Valid values: 1~24(48) Default value: - Type: Mandatory

5.7.41 vlan <VLAN ID> disable

Description Delete a VLAN from memberset table

Syntax vlan <VLAN ID> disable

Parameter

Name	Description
VLAN ID	VLAN ID. Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.7.42 vlan <VLAN ID> list

Description Show memberset setting by VLAN

Syntax vlan <VLAN ID> list

Parameter

Name	Description
VLAN ID	VLAN ID. Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.7.43 vlan <VLAN ID> priority

Description Set VLAN memberset priority (specify priority level or reserved the original priority, tag or untag, enable or disable port isolation)

Syntax vlan <VLAN ID> priority {<prio ID> | reserved} {tag | untag} isolation [disable]

Parameter

Name	Description
VLAN ID	VLAN ID. Valid values: 1 ~ 4094 Default value: - Type: Mandatory
<prio ID>	Priority ID Valid values: 0 ~ 7 Default value: 0 Type: Mandatory

5.7.44 vlan list

Description Show memberset setting by VLAN

Syntax vlan list

Parameter None

5.8 GBE Bridge Mode Commands

The commands in this section can be executed only in the GBE Bridge execution mode.

5.8.1 accfrm

Description Set acceptable frame type (untagged only, tagged only, or all)

Syntax accfrm {all | tag | untag}

Parameter None

5.8.2 default vlan

Description Set default VLAN ID for a bridge port

Syntax default vlan <VLAN ID>

Parameter

Name	Description
<VLAN ID>	VLAN ID Valid values: 1 ~ 4094 Default value: 1 Type: Mandatory

5.8.3 default prio

Description Set default priority value for a bridge port

Syntax default prio <prio ID>

Parameter

Name	Description
<prio ID>	Priority ID Valid values: 0 ~ 7 Default value: 0 Type: Mandatory

5.8.4 egress

Description Default PVID egress tagged/untagged setting

Syntax egress {tag | untag}

Parameter None

5.8.5 ingress

Description Enable/disable ingress filter mode

Syntax ingress {enable | disable}

Parameter None

5.8.6 isolation

Description Enable/Disable default PVID isolation setting

Syntax isolation [disable]

Parameter None

5.8.7 link mode

Description Set link mode (uplink mode or user mode)

Syntax link mode {uplink | user}

Parameter None

5.8.8 max-mac

Description Set the maximum users allowed to access Internet based on user MAC address counter on per ATM PVC basis

Syntax max-mac <number>

Parameter

Name	Description
<number>	Maximum number of the MAC addresses Valid values: 1 ~ 4096 for GBE interface, 1 ~ 128 for ADSL interface. Default value: 0 Type: Mandatory

5.8.9 priority-regen

Description VLAN priority value regeneration or Delete VLAN priority tag filter

Syntax priority-regen incoming <incoming prio> {outgoing <outgoing prio> | disable}

Parameter

Name	Description
<incoming prio>	Incoming VLAN priority value

	Valid values: 0 ~ 7 Default value: - Type: Mandatory
<outgoing prio>	Outgoing VLAN priority value Valid values: 0 ~ 7 Default value: - Type: Mandatory

5.8.10 stack

Description Enable/disable VLAN stacking

Syntax stack {enable | disable}

Parameter None

5.8.11 tcm-policer

Description Bind/Unbind Three Color Marking (TCM) Policer profile

Syntax tcm-policer <number> {bind | unbind}

Parameter

Name	Description
<number>	TCM policer profile index. Valid values: 1~24(48) Default value: - Type: Mandatory

5.8.12 vlan <VLAN ID> disable

Description Delete a VLAN from memberset table

Syntax vlan <VLAN ID> disable

Parameter

Name	Description
VLAN ID	VLAN ID. Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.8.13 vlan <VLAN ID> list

Description Show memberset setting by VLAN

Syntax vlan <VLAN ID> list

Parameter

Name	Description
VLAN ID	VLAN ID. Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.8.14 vlan <VLAN ID> priority

Description Set VLAN memberset priority (specify priority level or reserved the original priority, tag or untag, enable or disable port isolation)

Syntax vlan <VLAN ID> priority {<prio ID> | reserved} {tag | untag} isolation [disable]

Parameter

Name	Description
VLAN ID	VLAN ID. Valid values: 1 ~ 4094 Default value: - Type: Mandatory
<prio ID>	Priority ID Valid values: 0 ~ 7 Default value: 0 Type: Mandatory

5.8.15 vlan list

Description Show memberset setting by VLAN

Syntax vlan list

Parameter None

5.9 GBE-LA Bridge Mode Commands

5.9.1 accfrm

Description Set acceptable frame type (untagged only, tagged only, or all)

Syntax accfrm {all | tag | untag}

Parameter None

5.9.2 default vlan

Description Set default VLAN ID for a bridge port

Syntax default vlan <VLAN ID>

Parameter

Name	Description
<VLAN ID>	VLAN ID Valid values: 1 ~ 4094 Default value: 1 Type: Mandatory

5.9.3 default prio

Description Set default priority value for a bridge port

Syntax default prio <prio ID>

Parameter

Name	Description
<prio ID>	Priority ID Valid values: 0 ~ 7 Default value: 0 Type: Mandatory

5.9.4 egress

Description Default PVID egress tagged/untagged setting

Syntax egress {tag | untag}

Parameter None

5.9.5 ingress

Description Enable/disable ingress filter mode

Syntax ingress {enable | disable}

Parameter None

5.9.6 isolation

Description Enable/Disable default PVID isolation setting

Syntax isolation [disable]

Parameter None

5.9.7 link mode

Description Set link mode (uplink mode or user mode)

Syntax link mode {uplink | user}

Parameter None

5.9.8 max-mac

Description Set the maximum users allowed to access Internet based on user MAC address counter on per ATM PVC basis

Syntax max-mac <number>

Parameter

Name	Description
<number>	Maximum number of the MAC addresses Valid values: 1 ~ 4096 Default value: 0 Type: Mandatory

5.9.9 priority-regen

Description VLAN priority value regeneration or Delete VLAN priority tag filter

Syntax priority-regen incoming <incoming prio> {outgoing <outgoing prio> | disable}

Parameter

Name	Description
<incoming prio>	Incoming VLAN priority value Valid values: 0 ~ 7

	Default value: - Type: Mandatory
<outgoing prio>	Outgoing VLAN priority value Valid values: 0 ~ 7 Default value: - Type: Mandatory

5.9.10 stack

Description Enable/disable VLAN stacking

Syntax stack {enable | disable}

Parameter None

5.9.11 tcm-policer

Description Bind/Unbind Three Color Marking (TCM) Policer profile

Syntax tcm-policer <number> {bind | unbind}

Parameter

Name	Description
<number>	TCM policer profile index. Valid values: 1~24(48) Default value: - Type: Mandatory

5.9.12 vlan <VLAN ID> disable

Description Delete a VLAN from memberset table

Syntax vlan <VLAN ID> disable

Parameter

Name	Description
VLAN ID	VLAN ID. Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.9.13 vlan <VLAN ID> list

Description Show memberset setting by VLAN

Syntax vlan <VLAN ID> list

Parameter

Name	Description
VLAN ID	VLAN ID. Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.9.14 vlan <VLAN ID> priority

Description Set VLAN memberset priority (specify priority level or reserved the original priority, tag or untag, enable or disable port isolation)

Syntax vlan <VLAN ID> priority {<prio ID> | reserved} {tag | untag} isolation [disable]

Parameter

Name	Description
VLAN ID	VLAN ID. Valid values: 1 ~ 4094 Default value: - Type: Mandatory
<prio ID>	Priority ID Valid values: 0 ~ 7 Default value: 0 Type: Mandatory

5.9.15 vlan list

Description Show memberset setting by VLAN

Syntax vlan list

Parameter None

5.10 ADSL Configure Mode Commands

The commands in this section can be executed only in the ADSL Config mode.

5.10.1 line mode carrier

- Description** Set/Clear xDSL line carrier
- Syntax** line mode carrier {on | off | oninit}
- Parameter** None

5.10.2 line mode diagnostic

- Description** Set/Clear xDSL line diagnostics
- Syntax** line mode diagnostic {init | off}
- Parameter** None

5.10.3 line mode force-l3

- Description** Set force to power management L3 mode or not
- Syntax** line mode force-l3 {on | off}
- Parameter** None

5.10.4 line mode mask

- Description** Set/Clear xDSL line Operational mode mask
- Syntax** line mode mask {set | clear } <opmode ID>
- Parameter**

Name	Description
<opmode id>	The ID of allowed ADSL modes of operation. Valid values: Use 'list opmode' command to see all the operation modes. Or refer to Table A-1. Default value: - Type: Mandatory

5.10.5 line port

Description Set xDSL line port information

Syntax line port {id <id> | description <desc> | phone <phone number>}

Parameter

Name	Description
<id>	Line ID name (max 32 characters) Default value: - Type: Mandatory
<desc>	Line port description (max 48 character) Default value: - Type: Mandatory
<phone number>	Phone number. (max 32 characters) Valid values: no limit format Default value: - Type: Mandatory

5.10.6 line profile

Description Create xDSL line profile

Syntax line profile {service | spectrum | tca} <number>

Parameter

Name	Description
<number>	Profile index. Valid values: 1~120 (1~64 for tca profile) Default value: - Type: Mandatory

5.10.7 line status service

Description Set xDSL line service status (service ON/OFF/RESET)

Syntax line status service {on | off | reset}

Parameter None

5.11 IPoA Configure Mode Commands

The commands in this section can be executed only in the IPoA configure mode.

5.11.1 brasmac

Description Display Broadband RAS MAC address by index

Syntax brasmac <number>

Parameter

Name	Description
<number>	Broadband RAS MAC Table Index Valid values: 1 ~ 48 Default value: - Type: Mandatory

5.11.2 brasmac list

Description Show Broadband RAS MAC address table

Syntax brasmac list

Parameter None

5.11.3 cpriority

Description Customer VLAN Priority setting

Syntax cpriority <prio ID>

Parameter

Name	Description
<prio ID>	Customer VLAN Priority value Valid values: 0 ~ 7 Default value: - Type: Mandatory

5.11.4 cvlan

Description Customer VLAN setting

Syntax cvlan <VLAN ID>

Parameter

Name	Description
<prio ID>	Customer VLAN ID number Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.11.5 ipoa-status

Description IPoA Status setting (enable/disable IPoA)

Syntax ipoa-status {enable | disable}

Parameter None

5.11.6 max-mac

Description Port based allowed maximum number of MAC addresses

Syntax max-mac <number>

Parameter

Name	Description
<number>	Number of MAC addresses Valid values: 1 ~ 128 Default value: - Type: Mandatory

5.11.7 pvc

Description Set VPI and VCI

Syntax pvc <VPI>/<VCI>

Parameter

Name	Description
<VPI>	Virtual Path Identifier. Valid values: 0 ~ 255 Default value: 0 Type: Mandatory

<VCI>	Virtual Channel Identifier. Valid values: 21, 32~65535 Default value: 35 Type: Mandatory
--------------------	--

5.11.8 pvc atmdesc

Description List ATM traffic descriptor

Syntax pvc atmdesc

Parameter None

5.11.9 pvc atmdesc plc

Description Set ATM police (Rx) descriptor

Syntax pvc atmdesc plc <number>

Parameter

Name	Description
<number>	ATM descriptor number. Valid values: Enter 'pvc atmdesc' command to see the descriptor list. Default value: - Type: Mandatory

5.11.10 pvc atmdesc shp

Description Set ATM shaped (Tx) descriptor

Syntax pvc atmdesc shp <number>

Parameter

Name	Description
<number>	ATM descriptor number. Valid values: Enter 'pvc atmdesc' command to see the descriptor list. Default value: - Type: Mandatory

5.11.11 pvc encapsulation

Description Set Encapsulation type

Syntax pvc encapsulation {llc | vcmux}

Parameter None

5.11.12 uplink gigabit

Description Set GBE uplink mode

Syntax uplink <port>

Parameter

Name	Description
<port>	Gigabit Ethernet port number. Valid values: 1 Default value: - Type: Mandatory

5.12 Access List Mode Commands

The commands in this section can be executed only in the ACL execution mode.

5.12.1 bcrate cir

Description Broadcast rate limiting CIR and LBS setting

Syntax bcrate cir <cir> lbs <lbs>

Parameter

Name	Description
<cir>	Committed Information Rate (bps) Valid values: 1536 ~ 1000000000 Default value: 80000 Type: Mandatory
<lbs>	Leakage Bucket Size (millisecond) Valid values: 1 ~ 1024 Default value: 80 Type: Mandatory

5.12.2 bcrate list

Description Show broadcast rate limiting list

Syntax bcrate list

Parameter None

5.12.3 dstmac

Description Specify destination MAC address of packets to filter / Show specified destination MAC deny access list entry / Delete specified destination MAC deny access list entry

Syntax dstmac <number> deny {xDSL <port>/<pvc> | gigabit <port>} mac <mac address>

dstmac <number> list

dstmac <number> disable

Parameter

Name	Description
<number>	Destination MAC deny access list number

	Valid values: 1~256 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<mac address>	Destination MAC address Valid values: xx:xx:xx:xx:xx:xx (xx:00~ff) Default value: 00:00:00:00:00:00 Type: Mandatory

5.12.4 dstmac list

Description	Display destination MAC deny access list
Syntax	dstmac list
Parameter	None

5.12.5 dstip

Description	Specify destination IP address of packets to filter / Show specified destination IP deny access list entry / Delete specified destination IP deny access list entry
Syntax	dstip <number> deny {xDSL <port>/<pvc> gigabit <port>} ip <ipv4 address> <netmask> dstip <number> list dstip <number> disable
Parameter	

Name	Description
<number>	Destination IP deny access list number Valid values: 1~256

	Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<ipv4 address>	Destination IP address Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: 0.0.0.0 Type: Mandatory
<netmask>	Subnet mask Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: - Type: Optional

5.12.6 dstip list

Description	Display destination IP deny access list
Syntax	dstip list
Parameter	None

5.12.7 ethertype

Description	Specify Ether Type of packets to filter / Show specified Ether Type deny access list entry / Delete specified Ether Type deny access list entry
Syntax	ethertype <number> deny {xdsl <port>/<pvc> gigabit <port>} type <ethertype> ethertype <number> list ethertype <number> disable
Parameter	

Name	Description
<number>	Ether Type deny access list number Valid values: 1~256 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<ethertype>	Ether Type value Valid values: 0x0001 ~ 0xffff Default value: - Type: Mandatory

5.12.8 ethertype list

Description Display Ether Type deny access list

Syntax ethertype list

Parameter None

5.12.9 ip-allowed

Description Specify allowed source IP addresss of packets to filter / Show allowed IP access list entry / Delete specified allowed IP from access list

Syntax ip-allowed <number> allow xdsl <port>/<pvc> srcip <ipv4 address>
vlan <VLAN ID>

ip-allowed <number> list

ip-allwowed <number> disable

Parameter

Name	Description
<number>	Static IP allow access list number

	Valid values: 1~256 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<ipv4 address>	Allowed source IP address Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: 0.0.0.0 Type: Mandatory
<VLAN ID>	IP Allowed entry VLAN ID number Valid values: 1 ~ 4094 Default value: - Type: Optional

5.12.10 ip-allowed list

Description Display static IP allow access list

Syntax ip-allowed list

Parameter None

5.12.11 ipprotocol

Description Specify IP Protocol of packets to reject / Show specify IP protocol access list entry / Delete specify IP protocol deny access list entry

Syntax ipprotocol <number> deny {xDSL <port>/<pvc> | gigabit <port>}
protocol <protocol>

ipprotocol <number> list

ipprotocol <number> disable

Parameter

Name	Description
<number>	IP Protocol deny access list number Valid values: 1-256 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
protocol	Input protocol name. Valid values: icmp (ICMP) Internet Control Message <1> igmp (IGMP) Internet Group Management <2> ipinip IP in IP (encapsulation) <4> tcp (TCP) Transmission Control <6> grp (GRP) Globin Reduction Protocol <7> igp (IGP) Any private interior gateway <9> udp (UDP) User Datagram <17> gre (GRE) General Routing Encapsulation <47> eigrp EIGRP <88> ospf OSPF <89> Default value: - Type: Mandatory

5.12.12 ipprotocol list

Description Display IP protocol deny access list

Syntax ipprotocol list

Parameter None

5.12.13 l4dstport

Description Specify L4 dest port of packets to reject / Show specify L4 dest port access list entry / Delete specify L4 dest port deny access list entry

Syntax l4dstport <number> deny {xdsl <port>/<pvc> | gigabit <port>} port <port number>

l4dstport <number> list

l4dstport <number> disable

Parameter

Name	Description
<number>	L4 dest port deny access list number Valid values: 1-256 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<port number>	L4 destination port number Valid values: 1-65535 Default value: - Type: Mandatory

5.12.14 I4dstport list

Description Display L4 dest port deny access list

Syntax I4dstport list

Parameter None

5.12.15 mcfldrate list

Description Display flooding rate limiting list

Syntax mcfldrate list

Parameter None

5.12.16 mcfldrate vlan

Description Display flooding rate limiting list

Syntax mcfldrate vlan <VLAN ID> {list | disable | cir <cir> lbs <lbs>}

Parameter

Name	Description
<VLAN ID>	VLAN ID Valid values: 1 ~ 4094 Default value: - Type: Mandatory
<cir>	Committed Information Rate (bps) Valid values: 1536 ~ 1000000000 Default value: 80000 Type: Mandatory
<lbs>	Leakage Bucket Size (millisecond) Valid values: 1 ~ 1024 Default value: 80 Type: Mandatory

5.12.17 srcip

Description Specify source IP address of packets to filter / Show specify source IP deny access list entry / Delete specify source IP deny access list entry

Syntax srcip <number> deny {xdsl <port>/<pvc> | gigabit <port>} ip <ipv4 address> <net mask>

srcip <number> list

srcip <number> disable

Parameter

Name	Description
<number>	Source IP deny access list number Valid values: 1~256 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<ipv4 address>	Destination IP address Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: 0.0.0.0 Type: Mandatory
<netmask>	Subnet mask Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: - Type: Optional

5.12.18 srcip list

Description Display source IP deny access list

Syntax srcip list

Parameter None

5.12.19 srcmac

Description Specify source MAC of packets to reject / Show specify source MAC deny access list entry / Delete specify source MAC deny access list entry

Syntax srcmac <number> deny {xdsl <port>/<pvc> | gigabit <port>} mac <mac address>

srcmac <number> list

srcmac <number> disable

Parameter

Name	Description
<number>	Source MAC deny access list number Valid values: 1~256 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<mac address>	MAC address Valid values: xx:xx:xx:xx:xx:xx (xx:00~ff) Default value: 00:00:00:00:00:00 Type: Mandatory

5.12.20 srcmac list

Description Display source MAC deny access list

Syntax srcmac list

Parameter None

5.13 ATM Description Mode Commands

5.13.1 cbr

Description CBR traffic setting

Syntax cbr <index> pcr <pcr> cdvt <cdvt>

Parameter

Name	Description
<index>	ATM Descriptor index Valid values: 1 ~ 251 Default value: - Type: Mandatory
<pcr>	Peak cell rate number Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<cdvt>	Cell Delay Variation Tolerance Valid values: 0 ~ 65535 Default value: - Type: Mandatory

5.13.2 no atmdesc

Description Delete ATM Description

Syntax no atmdesc <number>

Parameter

Name	Description
<number>	ATM Description number Valid values: 1~251 Default value: - Type: Mandatory

5.13.3ubr1

Description UBR type 1 traffic setting (atmNoClpNoScrCdvT)

Syntaxubr1 <index> pcr <pcr> cdvt <cdvt>

Parameter

Name	Description
<index>	ATM Descriptor index Valid values: 1 ~ 251 Default value: - Type: Mandatory
<pcr>	Peak cell rate number Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<cdvt>	Cell Delay Variation Tolerance Valid values: 0 ~ 65535 Default value: - Type: Mandatory

5.13.4ubr2

Description UBR type 2 traffic setting (atmNoClpTaggingNoScr)

Syntaxubr2 <index> pcr <pcr> cdvt <cdvt>

Parameter

Name	Description
<index>	ATM Descriptor index Valid values: 1 ~ 251 Default value: - Type: Mandatory
<pcr>	Peak cell rate number Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<cdvt>	Cell Delay Variation Tolerance

	Valid values: 0 ~ 65535 Default value: - Type: Mandatory
--	---

5.13.5 unshp

Description unshaped traffic setting (atmNoTrafficDescriptor)

Syntax unshp <index>

Parameter

Name	Description
<index>	ATM Descriptor index Valid values: 1 ~ 251 Default value: - Type: Mandatory

5.13.6 vbr1

Description VBR type 1 traffic setting (atmNoClpScrCdvT)

Syntax vbr1 <index> pcr <pcr> cdvt <cdvt> scr <scr> mbs <mbs>

Parameter

Name	Description
<index>	ATM Descriptor index Valid values: 1 ~ 251 Default value: - Type: Mandatory
<pcr>	Peak cell rate number Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<cdvt>	Cell Delay Variation Tolerance Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<scr>	Sustained Cell Rate

	Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<mbs>	Maximum Burst Size Valid values: 0 ~ 65535 Default value: - Type: Mandatory

5.13.7 vbr2

Description VBR type 2 traffic setting (atmClpNoTaggingScrCdvT)

Syntax vbr2 <index> pcr <pcr> cdvt <cdvt> scr <scr> mbs <mbs>

Parameter

Name	Description
<index>	ATM Descriptor index Valid values: 1 ~ 251 Default value: - Type: Mandatory
<pcr>	Peak cell rate number Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<cdvt>	Cell Delay Variation Tolerance Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<scr>	Sustained Cell Rate Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<mbs>	Maximum Burst Size Valid values: 0 ~ 65535 Default value: - Type: Mandatory

5.13.8 vbr3

Description VBR type 3 traffic setting (atmClpTaggingScrCdvT)

Syntax vbr3 <index> pcr <pcr> cdvt <cdvt> scr <scr> mbs <mbs>

Parameter

Name	Description
<index>	ATM Descriptor index Valid values: 1 ~ 251 Default value: - Type: Mandatory
<pcr>	Peak cell rate number Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<cdvt>	Cell Delay Variation Tolerance Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<scr>	Sustained Cell Rate Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<mbs>	Maximum Burst Size Valid values: 0 ~ 65535 Default value: - Type: Mandatory

5.13.9 ubr-shp

Description UBR shaped traffic setting (atmNoClpNoScr)

Syntax ubr-shp <index> pcr <pcr>

Parameter

Name	Description
<index>	ATM Descriptor index Valid values: 1 ~ 251 Default value: - Type: Mandatory
<pcr>	Peak cell rate number Valid values: 0 ~ 65535 Default value: - Type: Mandatory

5.13.10 cbr-shp

Description CBR shaped traffic setting (atmClpTransparentNoScr)

Syntax cbr-shp <index> pcr <pcr> cdvt <cdvt>

Parameter

Name	Description
<index>	ATM Descriptor index Valid values: 1 ~ 251 Default value: - Type: Mandatory
<pcr>	Peak cell rate number Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<cdvt>	Cell Delay Variation Tolerance Valid values: 0 ~ 65535 Default value: - Type: Mandatory

5.13.11 vbr-shp

Description VBR shaped traffic setting (atmClpTransparentScr)

Syntax vbr-shp <index> pcr <pcr> cdvt <cdvt> scr <scr> mbs <mbs>

Parameter

Name	Description
<index>	ATM Descriptor index Valid values: 1 ~ 251 Default value: - Type: Mandatory
<pcr>	Peak cell rate number Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<cdvt>	Cell Delay Variation Tolerance Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<scr>	Sustained Cell Rate Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<mbs>	Maximum Burst Size Valid values: 0 ~ 65535 Default value: - Type: Mandatory

5.13.12 vbrnrt

Description VBR-nrt shaped traffic setting (atmClpNoTaggingScrCdvT)

Syntax vbr-shp <index> pcr <pcr> cdvt <cdvt> scr <scr> mbs <mbs>

Parameter

Name	Description
<index>	ATM Descriptor index Valid values: 1 ~ 251 Default value: - Type: Mandatory
<pcr>	Peak cell rate number Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<cdvt>	Cell Delay Variation Tolerance Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<scr>	Sustained Cell Rate Valid values: 0 ~ 65535 Default value: - Type: Mandatory
<mbs>	Maximum Burst Size Valid values: 0 ~ 65535 Default value: - Type: Mandatory

5.14 Priority List Mode Commands

The commands in this section can be executed only in the Priority List execution mode.

5.14.1 ds

Description Set Differentiated Service of packets to remark VLAN priority / Show Differentiated Service priority list entry / Disable Differentiated Service priority list entry

Syntax ds <number> prio <prio ID> {xdsl <port>/<pvc> | gigabit <port>} dscp <dscp>

ds <number> list

ds <number> disable

Parameter

Name	Description
<number>	Differentiated Service priority list number. Valid values: 1~256 Default value: - Type: Mandatory
<prio ID>	Priority value Valid values: 0~7 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<dscp>	Diffserv Code Points, which is a 6-bit number. The standardized combinations are listed below: default Default value (bits:000000) af11 Assured Forwarding Class 1:Low Drop (bits:001010)

af12	Assured Forwarding Class 1:Medium Drop (bits:001100)
af13	Assured Forwarding Class 1:High Drop (bits:001110)
af21	Assured Forwarding Class 2:Low Drop (bits:010010)
af22	Assured Forwarding Class 2:Medium Drop (bits:010100)
af23	Assured Forwarding Class 2:High Drop (bits:010110)
af31	Assured Forwarding Class 3:Low Drop (bits:011010)
af32	Assured Forwarding Class 3:Medium Drop (bits:011100)
af33	Assured Forwarding Class 3:High Drop (bits:011110)
af41	Assured Forwarding Class 4:Low Drop (bits:100010)
af42	Assured Forwarding Class 4:Medium Drop (bits:100100)
af43	Assured Forwarding Class 4:High Drop (bits:100110)
ef	Expedited Forwarding (bits:101110)

5.14.2 ds list

Description	Show Differentiated Service priority list
Syntax	ds list
Parameter	None

5.14.3 dstip

Description	Specify dest IP address of packets to remark vlan priority / Show dest IP address priority list entry / Disable dest IP address priority list entry
Syntax	dstip <number> prio <prio ID> {xdsl <port>/<pvc> gigabit <port>} ip <ipv4 address> <netmask> dstip <number> list dstip <number> disable

Parameter

Name	Description
<number>	Destination IP address priority list number Valid values: 1~256 Default value: - Type: Mandatory
<prio ID>	Priority value Valid values: 0~7 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<ipv4 address>	Destination IP address Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: 0.0.0.0 Type: Mandatory
<netmask>	Subnet mask Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: - Type: Optional

5.14.4 dstip list

Description	Show destination IP address priority list
Syntax	dstip list
Parameter	None

5.14.5 dstmac

Description Specify dest MAC of packets to remark vlan priority / Show dest MAC priority list entry / Disable dest MAC priority list entry

Syntax dstmac <number> prio <prio ID> {xdsl <port>/<pvc> | gigabit <port>}
mac <mac address>

dstmac <number> list

dstmac <number> disable

Parameter

Name	Description
<number>	Destination MAC priority list number Valid values: 1~256 Default value: - Type: Mandatory
<prio ID>	Priority value Valid values: 0~7 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<mac address>	MAC address Valid values: xx:xx:xx:xx:xx:xx (xx:0~ff) Default value: 00:00:00:00:00:00 Type: Mandatory

5.14.6 dstmac list

Description Show destination MAC priority list

Syntax dstmac list

Parameter None

5.14.7 ethertype

Description Specify Ether Type of packets to remark vlan priority / Show Ether Type priority list entry / Disable Ether Type priority list entry

Syntax ethertype <number> prio <prio ID> {xdsl <port>/<pvc> | gigabit <port>} type <ethertype>

ethertype <number> list

ethertype <number> disable

Parameter

Name	Description
<number>	ToS (IP Precedence) priority list number Valid values: 1~256 Default value: - Type: Mandatory
<prio ID>	Priority value Valid values: 0~7 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<ethertype>	Ether Type value Valid values: 0x0001 ~ 0xffff Default value: - Type: Mandatory

5.14.8 ethertype list

Description Show Ether Type priority list

Syntax ethertype list

Parameter None

5.14.9 ipprotocol

Description Specify IP protocol of packets to remark vlan priority / Show IP protocol priority list entry / Disable IP protocol priority list entry

Syntax ipprotocol <number> prio <prio ID> {xdsl <port>/<pvc> | gigabit <port>}
} protocol <protocol>

ipprotocol <number> list

ipprotocol <number> disable

Parameter

Name	Description
<number>	ToS (IP Precedence) priority list number Valid values: 1~256 Default value: - Type: Mandatory
<prio ID>	Priority value Valid values: 0~7 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
protocol	Input protocol name. Valid values:

icmp	(ICMP) Internet Control Message <1>
igmp	(IGMP) Internet Group Management <2>
ipinip	IP in IP (encapsulation) <4>
tcp	(TCP) Transmission Control <6>
grp	(GRP) Globin Reduction Protocol <7>
igp	(IGP) Any private interior gateway <9>
udp	(UDP) User Datagram <17>
gre	(GRE) General Routing Encapsulation <47>
eigrp	EIGRP <88>
ospf	OSPF <89>
Default value: -	
Type: Mandatory	

5.14.10 ipprotocol list

Description Show IP protocol priority list

Syntax ipprotocol list

Parameter None

5.14.11 srcip

Description Specify source IP address of packets to remark vlan priority

Syntax srcip <number> prio <prio ID> {xdsl <port>/<pvc> | gigabit <port>} ip
<ipv4 address> <netmask>

srcip <number> list

scrip <number> disable

Parameter

Name	Description
<number>	Source IP address priority list number Valid values: 1~256 Default value: - Type: Mandatory
<prio ID>	Priority value Valid values: 0~7 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<ipv4 address>	Destination IP address Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: 0.0.0.0 Type: Mandatory
<netmask>	Subnet mask Valid values: xxx.xxx.xxx.xxx (xxx:0~255) Default value: - Type: Optional

5.14.12 srcip list

Description	Show source IP address priority list
Syntax	srcip list
Parameter	None

5.14.13 srcmac

Description Specify source MAC of packets to remark vlan priority

Syntax srcmac <number> prio <prio ID> {xdsl <port>/<pvc> | gigabit <port>}
mac <mac address>

srcmac <number> list

srcmac <number> disable

Parameter

Name	Description
<number>	Source mac priority list number Valid values: 1~256 Default value: - Type: Mandatory
<prio ID>	Priority value Valid values: 0~7 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<mac address>	MAC address Valid values: xx:xx:xx:xx:xx:xx (xx:0~ff) Default value: 00:00:00:00:00:00 Type: Mandatory

5.14.14 srcmac list

Description Show source MAC priority list

Syntax srcmac list

Parameter None

5.14.15 tos

Description Specify ToS (IP Precedence) of packets to remark vlan priority / Show ToS (IP Precedence) priority list entry / Disable ToS (IP Precedence) priority list entry

Syntax tos <number> prio <prio ID> {xdsl <port>/<pvc> | gigabit <port>}
precedence <tos>
tos <number> list
tos <number> disable

Parameter

Name	Description
<number>	ToS (IP Precedence) priority list number Valid values: 1~256 Default value: - Type: Mandatory
<prio ID>	Priority value Valid values: 0~7 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<tos>	Incoming Type of Service. Valid values: 0~7 Default value: - Type: Mandatory

5.14.16 tos list

Description Show ToS (IP Precedence) priority list

Syntax tos list

Parameter None

5.14.17 vlanid

Description Specify VLAN ID of packets to remark VLAN priority / Show VLAN id priority list entry / Disable VLAN id priority list entry

Syntax vlanid <number> prio <prio ID> {xdsl <port>/<pvc> | gigabit <port>}
vlan <VLAN ID>

vlanid <number> list

vlanid <number> disable

Parameter

Name	Description
<number>	Vlan id priority list number Valid values: 1~256 Default value: - Type: Mandatory
<prio ID>	Priority value Valid values: 0~7 Default value: - Type: Mandatory
<port>	Port number. Valid values: 1~24(48) for xDSL, 1 for GBE Default value: - Type: Mandatory
<pvc>	PVC number Valid values: 1 ~ 8 Default value: - Type: Mandatory
<VLAN ID>	VLAN ID number Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.14.18 vlanid list

Description Show VLAN id priority list

Syntax vlanid list

Parameter None

5.15 Alarm Profile Mode Commands

The commands in this section can be executed only in the Alarm Profile execution mode.

5.15.1 alarm mask

Description Mask the alarm

Syntax alarm mask <name>

Parameter

Name	Description
<name>	Name of alarm. Valid values: Refer to Appendix B Alarm Table. Default value: - Type: Mandatory

5.15.2 alarm unmask

Description Unmask the alarm

Syntax alarm unmask <name>

Parameter

Name	Description
<name>	Name of alarm. Valid values: Refer to Appendix B Alarm Table. Default value: - Type: Mandatory

5.15.3 alarm major

Description Set the level of the alarm to Major

Syntax alarm major <name>

Parameter

Name	Description
<name>	Name of alarm. Valid values: Refer to Appendix B Alarm Table. Default value: - Type: Mandatory

5.15.4 alarm minor

Description Set the level of the alarm to Minor

Syntax alarm minor <name>

Parameter

Name	Description
<name>	Name of alarm. Valid values: Refer to Appendix B Alarm Table. Default value: - Type: Mandatory

5.16 IGMP-ACL Profile Mode Commands

The commands in this section can be executed only in the IGMP-ACL Profile execution mode.

5.16.1 igmp-acl

Description IGMP group ACL Setting (IP and VLAN) / Delete channel setting

Syntax igmp-acl <number> {<ipv4 address> vlan <VLAN ID> | delete}

Parameter

Name	Description
<number>	IGMP ACL channel index. Valid values: 1 ~ 256 Default value: - Type: Mandatory
<ipv4 address>	IGMP group address Valid values: 224.0.0.0 ~ 239.255.255.255 The range of addresses from 224.0.0.0 to 224.0.0.255 is reserved for the use of routing protocols and other low-level topology discovery or maintenance protocols. Default value: 0.0.0.0 Type: Mandatory
<VLAN ID>	VLAN ID. Valid values: 1 ~ 4094 Default value: - Type: Mandatory

5.16.2 igmp-acl rebind

Description IGMP ACL Profile rebind

Syntax igmp-acl rebind

Parameter None

5.17 Rate Limit Profile Mode Commands

The commands in this section can be executed only in the Rate Limit Profile execution mode.

5.17.1 share-slb

Description Set share SLB (Single Leaky Bucket) / Delete the share SLB profile

Syntax share-slb <number> {cir <cir> lbs <lbs> | disable}

Parameter

Name	Description
number	Share SLB profile index Valid values: 1 ~ 48 Default value: - Type: Mandatory
<cir>	Committed Information Rate (bps) Valid values: 1536 ~ 1000000000 Default value: - Type: Mandatory
<lbs>	Leakage Bucket Size (bits) Valid values: 1 ~ 1024 Default value: - Type: Mandatory

5.17.2 share-dlb

Description Set share DLB (Dual Leaky Bucket) / Delete the share DLB profile

Syntax share-dlb <number> {cir <cir> lbs <lbs> eir <eir> lbs <lbs> | disable}

Parameter

Name	Description
number	Share DLB profile index Valid values: 1 ~ 48 Default value: - Type: Mandatory
<cir>	Committed Information Rate (bps) Valid values: 1536 ~ 1000000000

	Default value: - Type: Mandatory
<lbs>	First Leakage Bucket Size (bits) Valid values: 1 ~ 1024 Default value: - Type: Mandatory
<eir>	Excess Info Rate (bps) Valid values: 1536 ~ 1000000000 Default value: - Type: Mandatory
<lbs>	Second Leakage Bucket Size (bits) Valid values: 1 ~ 1024 Default value: - Type: Mandatory

5.17.3 non-share-slb

Description Set non-share SLB (Single Leaky Bucket) / Delete the non-share SLB profile

Syntax non-share-slb <number> {cir <cir> lbs <lbs> | disable}

Parameter

Name	Description
number	Share SLB profile index Valid values: 1 ~ 48 Default value: - Type: Mandatory
<cir>	Committed Information Rate (bps) Valid values: 1536 ~ 1000000000 Default value: - Type: Mandatory
<lbs>	Leakage Bucket Size (bits) Valid values: 1 ~ 1024 Default value: - Type: Mandatory

5.17.4 non-share-dlb

Description Set non-share DLB (Dual Leaky Bucket) / Delete the non-share DLB profile

Syntax non-share-dlb <number> {cir <cir> lbs <lbs> eir <eir> lbs <lbs> | disable}

Parameter

Name	Description
number	Share DLB profile index Valid values: 1 ~ 48 Default value: - Type: Mandatory
<cir>	Committed Information Rate (bps) Valid values: 1536 ~ 1000000000 Default value: - Type: Mandatory
<lbs>	First Leakage Bucket Size (bits) Valid values: 1 ~ 1024 Default value: - Type: Mandatory
<eir>	Excess Info Rate (bps) Valid values: 1536 ~ 1000000000 Default value: - Type: Mandatory
<lbs>	Second Leakage Bucket Size (bits) Valid values: 1 ~ 1024 Default value: - Type: Mandatory

5.18 Service Profile Configure Mode Commands

The commands in this section can be executed only in the Service Profile execution mode.

5.18.1 bitrate

Description Set downstream/upstream Minimum/Maximum/Planned/L2 minimum bit rate

Syntax bitrate {ds | us} {min | max | planned | l2} <number>

Parameter

Name	Description
number	Bit rate (kb/s). Valid values: 0-65535 Default value: - Type: Mandatory

5.18.2 delay

Description Set downstream/upstream delay introduced by the interleaving

Syntax delay {ds | us} <number>

Parameter

Name	Description
number	Delay time (ms). Valid values: 1-63 Default value: - Type: Mandatory

5.18.3 l2-packet

Description Set L2 Packet cell

Syntax l2-packet <number>

Parameter

Name	Description
number	Set L2 Packet cell. Valid values: 0 ~ 28 Default value: - Type: Mandatory

5.18.4 mode

Description Set downstream/upstream rate adaptive mode to **init** (rate automatically selected at start up only and does not change after that), **dynamic** (rate automatically selected at initialization and is continuously adapted during show time), or **manual** (rate changed manually)

Syntax mode {ds | us} {init | dynamic | manual}

Parameter None

5.18.5 noise

Description Set downstream/upstream minimum impulse noise protection.

Syntax noise {ds | us} <number>

Parameter

Name	Description
number	Noise (tenth symbols). Valid values: 0~8 step 0.1 Default value: - Type: Mandatory

5.18.6 noisemargin

Description Set Downshift/Upshift Noise Margin in downstream/upstream direction

Syntax noisemargin {ds | us} {downshift | upshift} <number>

Parameter

Name	Description
number	Downshift/Upshift Noise Margin (tenth symbols). Valid values: 0~31 step 0.1 Default value: - Type: Mandatory

5.18.7 ra-interval

Description Set Downshift/Upshift Interval in downstream/upstream direction

Syntax ra-interval {ds | us} {downshift | upshift} <number>

Parameter

Name	Description
number	Downshift/Upshift interval (seconds). Valid values: 0 ~ 16383 Default value: 10 Type: Mandatory

5.18.8 service name

Description Set service profile name

Syntax service name <string>

Parameter

Name	Description
<string>	Profile name. (max 31 characters) Default value: - Type: Mandatory

5.19 Spectrum Profile Configure Mode Commands

The commands in this section can be executed only in the Spectrum Profile execution mode.

5.19.1 aggregate

Description Set downstream/upstream aggregate power level

Syntax aggregate {ds | us} max powerlevel <number>

Parameter

Name	Description
<number>	Power level (tenth dBm). Valid values: 0~25.5 step 0.1 Default value: - Type: Mandatory

5.19.2 bands <index> {start | stop}

Description Set RF bands

Syntax bands <index> {start | stop} <value>

Parameter

Name	Description
index	Bands array index. Valid values: 0-7 Default value: - Type: Mandatory
value	Set start / stop frequency (kHz). Valid values: 0-12000 Default value: - Type: Mandatory

5.19.3 bands <index> mask

Description Set bands mask

Syntax bands <index> mask <value>

Parameter

Name	Description
index	Bands array index. Valid values: 0-7 Default value: - Type: Mandatory
value	Valid values: see the following: egress_no_control egress no control egress_notched egress notched ingress_low ingress low ingress_weak ingress weak ingress_strong ingress strong rf_signal_am RF Signal AM Type rf_signal_hamband RF Signal HAMBAND Type Default value: egress_no_control Type: Mandatory

5.19.4 carriermask

Description Set carrier mask

Syntax carriermask {ds | us} <index> <value>

Parameter

Name	Description
index	Carrier mask array index. Valid values: 0-63 Default value: - Type: Mandatory
<value>	Carrier mask array value. Valid values: 0x00~0xff (Hex) Default value: - Type: Mandatory

5.19.5 message-based

Description Set minimum DS/US message-based data rate that is needed by ATU

Syntax message-based {ds | us} min <number>

Parameter

Name	Description
<number>	Min downstream/upstream message-based data rate. Valid values: 4 ~ 28 kbps Default value: - Type: Mandatory

5.19.6 modem features

Description Set modem features enable/disable

Syntax modem features {enable | disable}

Parameter None

5.19.7 noisemargin

Description Set downstream/upstream maximum / minimum / target noise margin

Syntax noisemargin {ds | us} {max | min | target} <number>

Parameter

Name	Description
<number>	Noise margin value. Valid values: 0~31 (or 51.1 means no max noise margin is used) step 0.1. Default value: - Type: Mandatory

5.19.8 opmode

Description Set Operational mode

Syntax opmode {set | clear} <opmode id>

Parameter

Name	Description
opmode id	The ID of allowed ADSL modes of operation. Valid values: Use 'list opmode' command to

	see all the operation modes. Default value: - Type: Mandatory
--	---

5.19.9 pbomode

Description Set power backoff operation mode ON/OFF

Syntax pbomode us {on | off}

Parameter None

5.19.10 power-mgt disable

Description Disable power management function for ADSL

Syntax power-mgt disable

Parameter None

5.19.11 power-mgt l2 enable

Description Allow autonomous L2 state entry/exit

Syntax power-mgt l2 enable

Parameter None

5.19.12 power-mgt l2_l3 enable

Description Allow autonomous L2 and L3 state entry/exit

Syntax power-mgt l2_l3 enable

Parameter None

5.19.13 power-mgt l0-time

Description Set the minimum time (in seconds) between Exit from L2 low power state and the next Entry into the L2 low power state

Syntax power-mgt l0-time <number>

Parameter

Name	Description
<number>	L0 Time value. Valid values: 0 ~ 255 (sec) Default value: - Type: Mandatory

5.19.14 power-mgt l2-time

Description Set minimum time (in seconds) between an Entry into L2 low power state and the first L2 low power trim request, and between two consecutive L2 power trim requests

Syntax power-mgt l2-time <number>

Parameter

Name	Description
<number>	L2 Time value. Valid values: 0 ~ 255 (sec) Default value: - Type: Mandatory

5.19.15 power-mgt l2-atpr

Description Set maximum aggregate transmit power reduction (in dB) that is allowed at transition of L0 to L2 state or an L2 low power trim request

Syntax power-mgt l2-atpr <number>

Parameter

Name	Description
<number>	L2 power reduction range value. Valid values: 0 ~ 31 (dB) Default value: - Type: Mandatory

5.19.16 power-mgt l2-atprt

Description Set total maximum aggregate transmit power reduction (in dB) that is allowed in the L2 state; the total reduction is the sum of all reductions of L2 Request (i.e., at transition of L0 to L2 state) and L2 power trims

Syntax power-mgt l2-atprt <number>

Parameter

Name	Description
<number>	L2 total power reduction value. Valid values: 0 ~ 31 (dB) Default value: - Type: Mandatory

5.19.17 psdlevel

Description Set PSD level

Syntax psdlevel {ds | us} max <number>

Parameter

Name	Description
<number>	Maximum PSD level (tenth dBm/Hz). Valid values: -60 ~ -40 downstream step 0.1 -60 ~ -38 upstream. step 0.1 Default value: - Type: Mandatory

5.19.18 psdshape

Description Set PSD shape

Syntax psdshape ds {cut-off <number> | standard}

Parameter

Name	Description
number	Cut-off frequencies at carrier. Valid values: 100-280 step 10 Default value: - Type: Mandatory

5.19.19 rxaggregate us max powerlevel

Description Set maximum aggregate receive power level

Syntax rxaggregate us max powerlevel <number>

Parameter

Name	Description
<number>	Maximum aggregate receive power level (-255~255 tenth dBm). Valid values: -25.5~25.5 step 0.1 Default value: - Type: Mandatory

5.19.20 spectrum name

Description Set spectrum profile name

Syntax spectrum name <string>

Parameter

Name	Description
<string>	Name of the spectrum profile. (max 31 characters) Default value: - Type: Mandatory

5.19.21 status modify complete

Description Set the status of modification

Syntax status modify complete

Parameter None

5.20 TCA Profile Mode Commands

The commands in this section can be executed only in the TCA Profile execution mode.

5.20.1 adsl-tca day

Description Set threshold value for near-end/far-end day PM

Syntax adsl-tca day {ne | fe} {es | ses | uas} <number

Parameter

Name	Description
number	Threshold value. Valid values: 0-86400 Default value: - Type: Mandatory

5.20.2 adsl-tca disable

Description Disable TCA

Syntax adsl-tca disable

Parameter None

5.20.3 adsl-tca enable

Description Enable TCA

Syntax adsl-tca enable

Parameter None

5.20.4 adsl-tca interval

Description Set threshold value for near-end/far-end interval PM

Syntax adsl-tca interval {ne | fe} {es | ses | uas | lof | lol | los | errframe} <number

Parameter

Name	Description
number	Threshold value. Valid values: 0-900 Default value: - Type: Mandatory

5.21 Dot1x Mode Commands

The commands in this section can be executed only in the Dot1x execution mode.

5.21.1 auth-method

Description Set priorities of the different authentication methods

Syntax auth-method <index> {none | radius_1 | radius_2 | radius_3 | profile}

Parameter

Name	Description
index	Authentication method priority. Valid values: 1-4 Default value: - Type: Mandatory

5.21.2 server <number> ip

Description Set RADIUS Server IP address

Syntax server <index> ip <ipv4 address>

Parameter

Name	Description
index	RADIUS Server index. Valid values: 1-3 Default value: - Type: Mandatory
ipv4 address	RADIUS Server IP address Valid values: - Default value: - Type: Mandatory

5.21.3 server <number> auth-port

Description Set the port number for RADIUS Authentication in the Layer-4 header

Syntax server <index> auth-port <number>

Parameter

Name	Description
index	RADIUS Server index. Valid values: 1-3 Default value: - Type: Mandatory
number	RADIUS Server authentication port Valid values: - Default value: 1812 Type: Mandatory

5.21.4 server <number> acct-port

Description Set the port number for RADIUS Accounting in the Layer-4 header

Syntax server <index> acct-port <number>

Parameter

Name	Description
index	RADIUS Server index. Valid values: 1-3 Default value: - Type: Mandatory
number	RADIUS Server accounting port Valid values: - Default value: 1813 Type: Mandatory

5.21.5 server <number> max-fail

Description Set the maximum allowable times of continuously failed authentication attempts

Syntax server <index> max-fail <number>

Parameter

Name	Description
index	RADIUS Server index. Valid values: 1-3 Default value: - Type: Mandatory
number	RADIUS Server maximum fail number Valid values: 1-10 Default value: 2 Type: Mandatory

5.21.6 server <number> secret

Description Set the authentication key in text format

Syntax server <index> secret <string>

Parameter

Name	Description
index	RADIUS Server index. Valid values: 1-3 Default value: - Type: Mandatory
string	Secret ID checked between NAS and RADIUS server Valid values: max 16 character Default value: Type: Mandatory

5.21.7 server <index> vlan <number>

Description The VID of the VLAN which the RADIUS server belongs to

Syntax server <index> vlan <number>

Parameter

Name	Description
index	RADIUS Server index Valid values: 1-3 Default value: - Type: Mandatory
number	VLAN ID Valid values: 1-4094 Default value: - Type: Mandatory

5.21.8 server <number> delete

Description Delete a RADIUS server setup in the system

Syntax server <index> delete

Parameter

Name	Description
index	RADIUS Server index. Valid values: 1-3 Default value: - Type: Mandatory

5.21.9 profile delete

Description Delete an authentication local profile in the system

Syntax profile <index> delete

Parameter

Name	Description
index	Authenticate profile index. Valid values: 1-64 Default value: - Type: Mandatory

5.21.10 profile <index> username <string> password

Description Set the username and password for a authentication local profile

Syntax profile <index> username <string> password <string>

Parameter

Name	Description
index	Authenticate profile index. Valid values: 1-64 Default value: - Type: Mandatory
string	Setting username of Authenticate profile Valid values: max 16 character Default value: - Type: Mandatory
string	Setting password of Authenticate profile Valid values: max 16 character Default value: - Type: Mandatory

Appendix A ADSL Operational Mask Table

Table A-1 ADSL Operational Mask

Bit	Description	Bit	Description
0	ANSI_T1.413	32	992_4_I_AllDigital_NonOverlapped
1	ETSI_DTS_TM06006	33	992_4_I_AllDigital_Overlapped
2	992_1_A_Pots_NonOverlapped	34	992_3_L_Pots_NonOverlapped_Mode1
3	992_1_A_Pots_Overlapped	35	992_3_L_Pots_NonOverlapped_Mode2
4	992_1_B_Isdn_NonOverlapped	36	992_3_L_Pots_Overlapped_Mode3
5	992_1_B_Isdn_Overlapped	37	992_3_L_Pots_Overlapped_Mode4
6	992_1_C_Tcmlsdn_NonOverlapped	38	992_3_M_Pots_Extend_US_Overlapped
7	992_1_C_Tcmlsdn_Overlapped	39	992_3_M_Pots_Extend_US_NonOverlapped
8	992_2_A_Pots_NonOverlapped	40	992_5_A_Pots_NonOverlapped
9	992_2_B_Pots_Overlapped	41	992_5_A_Pots_Overlapped
10	992_2_C_Tcmlsdn_NonOverlapped	42	992_5_B_Isdn_NonOverlapped
11	992_2_C_Tcmlsdn_Overlapped	43	992_5_B_Isdn_Overlapped
18	992_3_A_Pots_NonOverlapped	46	992_5_I_AllDigital_NonOverlapped
19	992_3_A_Pots_Overlapped	47	992_5_I_AllDigital_Overlapped
20	992_3_B_Isdn_NonOverlapped	48	ANSI_T1.424
21	992_3_B_Isdn_Overlapped	49	ETSI_TS_101_270
24	992_4_A_Pots_NonOverlapped	50	993_1
25	992_4_A_Pots_Overlapped	51	IEEE_8023ah
28	992_3_I_AllDigital_NonOverlapped	56	992_5_J_AllDigital_NonOverlapped
29	992_3_I_AllDigital_Overlapped	57	992_5_J_AllDigital_Overlapped
30	992_3_J_AllDigital_NonOverlapped	58	992_5_M_Pots_Extend_US_NonOverlapped
31	992_3_J_AllDigital_Overlapped	59	992_5_M_Pots_Extend_US_Overlapped

Appendix B Alarm Table

Table B-1 Alarm Table

Alarm ID	Name	Description
104	alm_fan_fail	System Fan Fail
105	alm_self_test_fail	System Self Test Fail
106	alm_above_temper	System Above Temperature
107	alm_below_temper	System Below Temperature
118	alm_dsl_dsp	System DSP Fail
601	alm_adsl_los	Near-end Loss of Signal
602	alm_adsl_lof	Near-end Loss of Frame
603	alm_adsl_lom	Near-end Loss of Margin
610	alm_adsl_lcd	Near-end Loss Cell Delineation
612	alm_adsl_ncd	Near-end No Cell Delineation
613	alm_adsl_los_fe	Far-end Loss of Signal
614	alm_adsl_lof_fe	Far-end Loss of Frame
615	alm_adsl_lom_fe	Far-end Loss of Margin
616	alm_adsl_lopwr_fe	Far-end Loss of Power
619	alm_adsl_commf_fe	Far-end Communication Failure
620	alm_adsl_nopeer_fe	Far-end No Peer Present
622	alm_adsl_lcd_fe	Far-end Loss Cell Delineation
624	alm_adsl_ncd_fe	Far-end No Cell Delineation

Appendix C Cleaning the AIR Filter

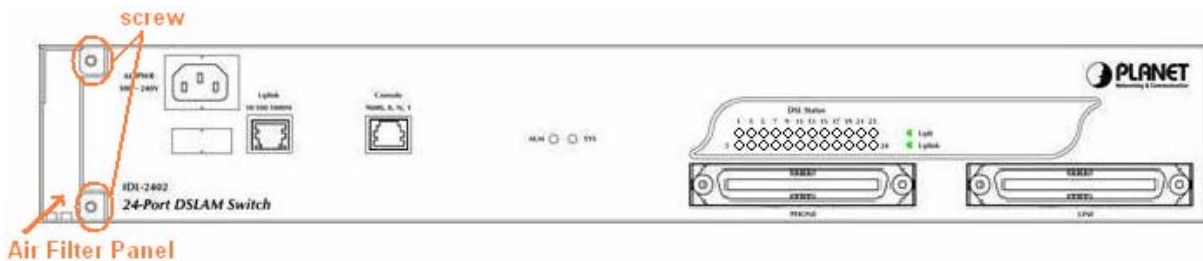
For better condition of cool system, please remember to clean the Air Filter every three months. This section provides the procedure for how to clean the **Air Filter**

Procedure :

Note:

Before cleaning the Air Filter, please power-off the IDL-2402 first.

You must loosen the connection of the Air Filter Panel to the DSLAM and pull out the Air Filter before cleaning the air filter.



- 1 Put on the antistatic wrist strap and connect it to a grounding point.
- 2 Turn the screw on the Air Filter Panel counterclockwise until it loosens the connection of the panel to the DSLAM. Remove the Air Filter Panel.
- 3 Pull the air filter out of the DSLAM.
- 4 Wash and clean the dust that on the Air Filter.
- 5 Slide the cleaned Air Filter into the Air Filter slot of the DSLAM.
- 6 Reinstall the Air Filter Panel.

Appendix D Introduction for Troubleshooting

This chapter describes instructions for the IDL-2402 system problems. These procedures may require the presence of technicians at remote IDL-2402 system sites and plus an operator at PC to monitor system alarms by console during maintenance.

Resolving Problems Indicated Through LEDs

This section describes what to do to solve problems indicated by LEDs on the system front panel.

Problems Indicated by LEDs

LED	Activity	Problem	Action
SYS	Not lit even though DSLAM is powered up	There is a power up problem with the system.	Troubleshoot the DSLAM for power up problems; see troubleshooting section.
	Red	Self-test failed. There is a functional problem with the system.	Replace the DSLAM.
ALM	Red	Major alarm set	See troubleshooting section
	Red-Flash	Major and Minor alarm set	See troubleshooting section.
	Yellow	Minor alarm set	See troubleshooting section.

Resolving Problems Indicated Through Alarms

Alarms of the system are viewed through CLI and Web GUI.

If an alarm indicates a problem, please refer to troubleshooting procedures section.

Troubleshooting Procedures for the IDL-2402

When you follow a troubleshooting procedure, start from the first step of the procedure. If the first step does not solve the problem, proceed to the next step; keep going through the steps until the problem is solved. Use the following table to find out the appropriate procedure for troubleshooting the listed problems.

List of Troubleshooting Procedures

Type of problem	Procedure Number
IDL-2402 power up problems	Procedure 1
ADSLx service problems (POTS service is ok)	Procedure 2
POTS service problems (ADSLx service is ok)	Procedure 3
Subscriber service problems (no POTS and ADSLx service)	Procedure 4

Procedure 1 : Troubleshooting for Power Up Problems

Problem indication:

- The SYS LED on the front panel is not lit even though the DSLAM is powered up
- Alarm that indicates a system power up problem
- Subscribers connected to the DSLAM do not have DSL service; POTS service is ok

Procedure:

1. Check that the power cord is connected to the power socket on the front panel, and the other end of the cord is connected to a power outlet.
2. Check that the power feeds are connected to the DSLAM, and that power is present on the two power feeds with correct polarity.
3. Replace the IDL-2402.
4. Contact your local distributor.

Procedure 2 Troubleshoot ADSLx Service Problems

Problem indication:

No ADSLx service to the affected subscribers (POTS service is ok).

Procedure:

- 1** If all subscribers connected to the DSLAM are affected, and the SYS LED on the front panel is not lit, check the both end of power cords:
 - If one of the power cords is not connected, power up the DSLAM by plugging the power cord to the power socket/power outlet.
 - If the power cords are both connected, follow **Procedure 1** to troubleshoot the DSLAM for power up problem
- 2** If all subscribers are affected, check the SYS LED on the front panel; if it is red, replace the DSLAM.
- 3** If only some subscribers are affected, identify the ports that have problems. Check that the subscribers are connected to the line interfaces properly.
- 4** Contact your local distributor.

Procedure 3 Troubleshoot POTS Service Problems

Problem indication:

No POTS service to the affected subscribers (ADSLx service is ok).

Procedure:

- 1** Check the connection of the POTS lines at the POTS connector for the DSLAM.
- 2** Use a bridging connector to couple the POTS and subscriber lines. If this solves the problem, replace the DSLAM.
- 3** Check the condition of the POTS lines and connectors.

Procedure 4 Subscriber Service Problems

Problem indication:

No POTS and ADSLx service to the affected subscribers.

Procedure:

- 1** Check the connection of the subscriber lines and POTS lines at the subscriber line connector for DSLAM for subscribers that do not have POTS and ADSLx service.
 - If this step results in POTS service to the affected subscribers but there is still no ADSLx service to them, follow **Procedure 2** to troubleshoot ADSLx service problems.
 - If this step results in ADSL service to the affected subscribers but there is still no POTS service to them, follow **Procedure 3** to troubleshoot POTS service problems.
- 2** Use a bridging connector to couple the POTS and subscriber lines. If this results in POTS service to the affected subscribers, contact your distributor.
- 3** Check the condition of the subscriber lines and connectors.

EC Declaration of Conformity

For the following equipment:

*Type of Product : 24-Port IP DSLAM
*Model Number : IDL-2402

* Produced by:

Manufacturer's Name: **Planet Technology Corp.**
Manufacturer's Address: 11F, No. 96, Min Chuan. Road, Hsin Tien
Taipei, Taiwan, R.O.C.

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC, Amended by 92/31/EEC, 93/68/EEC & 98/12/EC).

For the evaluation regarding the Electromagnetic Compatibility, the following standards were applied:

EN 300 386	(V1.3.3:2005)
EN 55022	(1998 + A1:2000 + A2:2003, Class A)
EN 61000-3-2	(2000, Class A)
EN 61000-3-3	(1995 + A1:2001)
EN 61000-4-2	(1995 + A1:1998 + A2 :2001)
EN 61000-4-3	(1996 + A1:1998 + A2 :2001)
EN 61000-4-4	(2004)
EN 61000-4-5	(1995 + A1:2001)
EN 61000-4-6	(1996 + A1:2001)

Responsible for marking this declaration if the:

Manufacturer Authorized representative established within the EU

Authorized representative established within the EU (if applicable):

Company Name: Planet Technology Corp.

Company Address: 11F, No.96, Min Chuan Road, Hsin Tien, Taipei, Taiwan, R.O.C

Person responsible for making this declaration

Name, Surname Allen Huang

Position / Title : Product Manager

Taiwan
Place

30th Oct., 2008
Date

Allen
Legal Signature

PLANET TECHNOLOGY CORPORATION